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FRESHMAN MATHEMATICS COURSE DESCRIPTIONS, TEXAS COLLEGES AND UNIVERSITIES.

TEXAS EDUCATION AGENCY, AUSTIN

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FOR EACH OF 84 TEXAS COLLEGES AND UNIVERSITIES, THE FOLLOWING INFORMATION IS PRESENTED--(1) ENTRANCE REQUIREMENTS, WITH EMPHASIS ON TESTS AND MATHEMATICS COURSES, (2) GENERAL ORGANIZATION, WITH STATEMENTS OF GRADUATION REQUIREMENTS IN MATHEMATICS FOR BOTH GENERAL STUDENTS AND THOSE WITH MAJORS IN SPECIALIZED FIELDS, (3) A BRIEF DESCRIPTION OF EACH MATHEMATICS COURSE OFFERED IN THE COLLEGE, AND (4) METHODS OF DETERMINING COURSE GRADES, EXAMINATION PROCEDURES, AND PROVISIONS FOR REPETITION OF COURSES. (WO)

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FRESHMAN MATHEMATICS COURSE DESCRIPTIONS

UNIVERSITY OF CALIF.
LOS ANGELES

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JUNIOR COLLEGE
INFORMATION

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FOREWORD

This publication is a joint project of the Commission on School and College Relations of the Association of Texas Colleges and Universities and the Texas Education Agency.

The bulletin should become an invaluable guide to secondary school teachers and counselors, to high school students planning to attend college, and to the colleges and universities themselves.

Ninety-four Texas colleges and universities were invited to participate in the project. Eighty-four institutions prepared descriptions of their freshman mathematics programs. The cooperation given by college and university presidents and members of their staff is appreciated.

J. W. Edgar
Commissioner of Education

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OF THE

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Abilene Christian College
Abilene

Entrance Procedures

A student may be admitted to Abilene Christian College if he graduates from an accredited high school and ranks in the upper half of his graduating class or if he ranks at or above the 25th percentile on the composite American College Test (ACT) score. A qualified freshman may enter any semester. If he does not meet the above qualifications, he must enter on probation in a spring or summer session. If his high school preparation includes less than two units of mathematics, the deficiency must be removed no later than the end of the first year of college.

The entrance examinations include the ACT Quantitative Aptitude Test and the ACC Mathematics Qualification Test. These scores, together with high school grades and personal conferences are used to place the student in his beginning college mathematics.

Students with unusual high school preparation may receive college credit for one or two semesters of calculus by passing the College Entrance Examination Board (CEEB) advanced placement examination in mathematics. No credit is allowed unless the student enrolls in a following mathematics course at Abilene Christian College. The grade received on the following course will be recorded also as the grade (s) for the course (s) credited by examination.

General Organization

Candidates for all degrees who have less than three years of high school mathematics are required to take Mathematics 1301, General Elementary Mathematics. Certain major fields require additional mathematics as follows:

Agronomy (Soil Science Option)	Math 1311, 1312
Biology	*6 hours of math
Business Administration	Math 1301, 1302
Chemistry	Through beginning calculus
Elementary Education	Math 3357, Modern Approach to Arithmetic
Secondary Education	6 hours of mathematics or foreign language
Industrial Education	6 hours of mathematics
Music	6 hours mathematics or foreign language
Physics	6 hours beyond calculus

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* *Use of "hours" in this context means "semester hours".*

A major in mathematics is required to take 18 advanced hours (above calculus). A minor in mathematics must have at least 18 hours including at least six hours beyond calculus.

In the fall of 1965, the entering mathematics student presenting a substantial four-year program of high school mathematics began his college mathematics with Mathematics 1412, Analytic Geometry. Entering students of unusual ability or preparation who did not qualify for advanced placement credit were permitted to enroll in the honors course Mathematics 1517, Calculus with Analytic Geometry.

Entering students planning eventually to take calculus but who did not present three and one-half years of high school mathematics or whose entrance test scores indicated lack of readiness for Mathematics 1412 were expected to take Mathematics 1411, College Algebra and Trigonometry, as preparation for Mathematics 1412.

Course Content

Mathematics 1301, General Elementary Mathematics: Fundamental operations of real numbers, bases, sets; emphasis on fundamental concepts. Three hours credit.

Mathematics 1302, Mathematics of Finance: Simple and compound interest, annuities, bonds, life insurance and stocks. Three hours credit.

Mathematics 1311, College Algebra: Basic principles of algebra, algebraic functions. Three hours credit. Prerequisite: Two years of high school algebra and one year of geometry.

Mathematics 1312, Trigonometry: Trigonometric functions, their loci and properties. Three hours credit. Prerequisite: Same as for Mathematics 1311.

Mathematics 1411, College Algebra and Trigonometry: An integrated treatment of algebraic and transcendental functions. Four hours credit. Prerequisite: Same as for Mathematics 1311.

Mathematics 1412, Analytic Geometry: Offered in 1965-66. Will be replaced in 1966-67 by a four-hour credit course in calculus with analytic geometry, the first of a three-course sequence. Prerequisite: Three and one-half years of high school mathematics or Mathematics 1411.

Mathematics 1517, Calculus with Analytic Geometry: An honors course for entering freshmen. Prerequisite: Superior high school preparation and consent of the instructor. Five hours credit (probably will be reduced to four in 1966-67 to parallel the above course).

Mathematics 1301 and Mathematics 1302 do not satisfy the mathematics requirements for mathematics majors or minors. Mathematics 1411 may not be credited with 1311 and/or 1312. Mathematics 1412 may not be credited with Mathematics 1517.

Exit Requirements

Each course is graded by the individual instructor with the usual A-F ranking. ACC uses a 4.0 honor point system. Uniform coverage and grading is provided by informal conferences between instructors. Homework is taken up and checked in all freshman courses. A passing grade is required. The final exam, hour quizzes and homework provide the usual basis for determining the grade.

Alvin Junior College

Alvin

Entrance Procedures

Freshman students entering Alvin Junior College for the first time take or have on record test scores for either the American College Test (ACT) or the College Entrance Examination Board (CEEB) test. Students obtain advanced placement without credit by means of a departmental examination administered by the department head.

Course Content

Algebra 113, College Algebra: A terminal course in algebra for non-technical majors. Includes a study of the fundamental operations of algebra, special products and factoring, fractions, linear equations in one unknown, systems of equations, graphs, exponents and radicals, quadratic equations, binomial theorem, ratio, proportion and variation. Will not count on the engineer's degree plan.

Algebra 113E, Algebra for Engineers: Three hours credit. For pre-engineering and science majors. A continuation of Algebra 113, including a brief review followed by a more intensive study of advanced topics in quadratic equations, systems of quadratic equations, inequalities, progressions, complex numbers, elementary theory of equations, permutations, combinations, mathematical induction and other selected topics as time permits. Prerequisite: Algebra 113 or two years of high school algebra and consent of a member of the department. A student may not count both Algebra 113 and Algebra 113E on a degree plan.

Trigonometry 123, Plane Trigonometry: Three hours credit. Mastery of trigonometric functions with applications, functions of acute angles, functions of obtuse and multiple angles, identities, derivation of formulas, logarithms, solution of right and obtuse triangles, practical problems involving heights and distances, graphical representation of trigonometric functions and geometric applications. Prerequisite: Mathematics 113E, Algebra for Engineers, and high school geometry.

An. 114, Analytic Geometry: Four hours credit. A course in the solution of geometric problems through applied algebra by the graphical representation of points, lines, curves, the transformation of coordinates, polar coordinates, transcendental curves, parametric and space formulas, with special emphasis on rapid curve sketching. Prerequisite: Algebra 113E and Trigonometry 123.

E. P. 111, Engineering Problems: One hour credit. A course for pre-engineers which should be taken concurrently with Physics 184. Designed to introduce the student to elementary engineering problems. Two lecture-laboratory hours per week for 18 weeks. Prerequisite: Algebra 113 or 113E and Trigonometry 123.

Amarillo College
Amarillo

Entrance Procedures

Admission to Amarillo College requires at least two units of high school mathematics, excluding arithmetic and general mathematics.

Every freshman entering Amarillo College is required to take an entrance test. Either the American College Test (ACT) or the College Entrance Examination Board (CEEB) is accepted. Any high school graduate who is otherwise qualified will not be refused admission to Amarillo College on the basis of these test scores. The test results are used in counseling and in placing students in proper sections. These tests may be taken at Amarillo College or at any of several other testing centers. Advanced standing, but no credit, is granted to those freshmen who achieve the recommended score on either of the tests given.

Engineering, mathematics, and science (physics and chemistry) students are required to present at least three units of high school mathematics.

Freshmen are admitted during the summer session, with admission requirements the same as those of the regular session, with the exception of special students from other colleges home for the summer.

General Organization

Associate degrees in Arts, Science and Applied Science are granted at the end of two years work. The associate degree in Science requires twelve hours of mathematics for mathematics or engineering majors and six hours of mathematics for all others. The associate degrees in Arts and Applied Science require at least six hours of mathematics or natural science, with six hours of both recommended. Students not planning to major or minor in mathematics or engineering may meet the requirement by taking three hours of liberal arts algebra (Mathematics 131) and three hours of trigonometry (Mathematics 132). Mathematics 031 is offered to those students who have a poor mathematical background, but with no college credit.

Amarillo College requires two semesters of calculus above the freshman mathematics for mathematics, engineering, and science majors.

Course Content

Mathematics 031, Intermediate Algebra: A non-credit algebra course designed for beginning students who do not present two high school credits in algebra or for students weak in algebra who need review of basic algebra prior to taking college algebra.

Mathematics 131, College Algebra: Designed for general education. Open to all students except pre-engineering, pre-mathematics, and pre-science majors.

Mathematics 135, College Algebra: Designed for pre-engineering, pre-mathematics, and pre-science majors.

Mathematics 132, Plane Trigonometry: Designed for general education, this course emphasizes the trigonometric functions, solution of triangles, trigonometric identities and equations. Open to all students except pre-engineering, mathematics, and science majors.

Mathematics 137, Trigonometry: Designed for pre-engineering, pre-mathematics, and pre-science majors, this course is open to all freshman students who present two high school credits in algebra. Either Mathematics 132 or Mathematics 137 may be counted for college credit, but not both of them.

Mathematics 138, Analytic Geometry: Designed for pre-engineering, pre-mathematics, pre-science majors. Open to all students with credit or advanced placement in college algebra and trigonometry.

Mathematics 235, Calculus: Designed for pre-engineering, pre-mathematics pre-science majors, this course provides an introduction to limits, functions, and differential and integral calculus with the major emphasis being on differential calculus. Both the theory and application of calculus are discussed.

Mathematics 2314, Elementary Concepts in Modern Mathematics: Designed for an introduction to modern elementary mathematics. Concepts of sets; numeration; characteristics, properties, and techniques of the four fundamental processes; and extending systems of numeration.

Exit Requirements

From four to six examinations, including a final examination, are given in each of the courses described in the preceding section. The grade is determined by the instructor. The final examination must count at least one-fourth on the final grade. A course may be repeated for the purpose of raising the grade, but when this repetition is made, the second grade shall stand as a permanent record. No limit is set on the number of times a course may be repeated.

Angelo State College

San Angelo

Entrance Procedures

General entrance requirements to Angelo State College are set forth in the catalog of the College. For admission it is required that a graduate of an accredited high school must have completed at least two units of high school mathematics. An individual twenty-one years of age or older, who is not a graduate of an accredited high school, may be admitted provided that a satisfactory score is made on the American College Test (ACT).

All applicants for admission to Angelo State College will be required to take ACT Program tests for predicting the applicant's success or failure in college work. A short mathematics examination is given at the beginning of each semester for placement purposes. The results of this examination, scores on the ACT, and the record of high school work will be used by the mathematics counselors in placing the student in a mathematics course.

Advanced standing (with credit) in college algebra, trigonometry and/or analytic geometry may be obtained through an appropriate score on an advanced standing test.

Entering freshmen are encouraged to attend the summer session of Angelo State College following their graduation from high school. Students may accelerate their growth in mathematical understanding by a proper choice of mathematics courses.

General Organization

General requirements for the baccalaureate degree in Business Administration at Angelo State College include a minimum of six semester hours in mathematics. The baccalaureate degree in Science requires the completion of at least three semester hours in the department of mathematics, and the baccalaureate degree in Arts has no minimum requirement in mathematics. Some majors have more than the minimum institutional requirement.

Course Content

Mathematics 131, College Algebra: Designed primarily for those students majoring in non-technical fields. Topics covered include number systems, sets, exponents, radicals, linear equations, quadratic equations, systems of equations involving quadratics, ratio, proportion and variation, binomial theorem, progressions, probability, logarithms, and inequalities. This course is open to any student admitted to Angelo State College.

Credit may not be received for both this course and Mathematics 132.

Mathematics 132, College Algebra: Designed for pre-engineers and those planning work in technical and professional fields. Topics covered include sets, mathematical logic, quadratic equations, systems of equations involving quadratics, ratio, proportion, variation, mathematical induction, binomial theorem, progressions, inequalities, theory of equations, logarithms and determinants, partial fractions and infinite series. This course is open to students who make a satisfactory rating on the mathematics placement test or have credit for Mathematics 131.

Mathematics 133, Plane Trigonometry: Topics include trigonometric functions, radian measure, logarithms, solutions of triangles, functions of composite angles, identities, trigonometric equations, graphs and complex numbers. It is open to students who make a satisfactory rating on the mathematics placement test or have credit for Mathematics 131 or 132.

Mathematics 134, Analytic Geometry: Topics include rectangular and polar coordinate systems, loci for equations, equations of loci, conic sections, parametric equations, transcendental equations, transformation of coordinates, and plane and quadric surfaces. It is open to all students with credit in college algebra and trigonometry.

Mathematics 135, Mathematics of Finance: Designed especially for business administration students. Topics include compound interest, annuities, long term loans and mortgages, amortization and sinking funds, bonds, investments, and applied problems. Emphasis is placed on problem solving. It is open to all students with credit in college algebra.

Mathematics 231, Differential Calculus: Topics include limits, derivatives, differentials, elementary integration, differentiation of functions, and applications of derivatives. Open to students with credit in Analytic Geometry.

Mathematics 233, Modern Mathematics: An introduction to modern algebra and geometry and includes basic concepts of sets, number systems, relations and functions, equivalence and congruence, position and shape, measurement, the nature of proof, finite mathematical structures with applications to other natural and social sciences. Open to any student admitted to Angelo State College.

Mathematics 234, Introduction to Computer Programing: Covers the basic principles of electronic digital computers; an introduction to machine language and symbolic languages, including FORTRAN; analysis of problems, and the preparation of computer programs. In the required laboratory period, students get practical experience in writing programs for the computer and in operating an electronic digital computer. Open to students with credit in college algebra.

Exit Requirements

The exact determination of course grades varies among the instructors. Approximately four or five tests are given and along with homework and the final examination comprise the grade. A passing grade is required.

Students may repeat courses for the purpose of raising the grade. The last grade shall stand as the permanent record and for figuring the grade points.

Arlington State College

Arlington

Entrance Procedures

An applicant for admission to Arlington State College must have:

(1) graduated from an accredited high school with at least 15 acceptable high school units, including two units in algebra or one unit in algebra and one unit in geometry, and

(2) achieved a level of performance on the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board (CEEB) in accordance with the applicant's standing in his high school graduating class, as follows:

RANK IN HIGH SCHOOL GRADUATING CLASS	MINIMUM ACCEPTABLE SAT SCORE
First (highest) quarter	600
Second quarter	650
Third quarter	750
Fourth quarter	900

In addition, each entering freshman must present the results of the CEEB in English and mathematics (Level I) for counseling and placement. Freshmen who plan to enter at the beginning of the fall semester are given a particular day during the preceding summer at which time counseling and registration for the fall semester are completed.

Arlington State College permits students to acquire credit for college courses by advanced standing examinations. The requirements for gaining permission to take an advanced standing examination are listed in the college catalog. Where applicable, a score of 600 on the CEEB achievement test is given major consideration as a minimum grade necessary for approval of the application for advanced standing examinations.

Advanced placement in mathematics is operated by the School of Engineering. The basis for this is a high academic record in high school mathematics, and a high performance on the CEEB mathematics achievement test.

A three semester hour combination of algebra and trigonometry (Mathematics 1324) is offered for engineering students who need review and who expect to begin their analytic geometry the second semester of their freshman year.

Special summer school admission requirements are in effect for the summer session 1966. Applicants for admission who have never attended a college and who meet all requirements for admission, except an acceptable SAT test score, may be admitted for the summer session; and, upon completing the following requirements during the summer, may be admitted as a regular student. Such students must attend both six weeks terms and pass a minimum of nine semester hours of credit of which at least six must be in English, history, government, mathematics or science and with the approval of the major advisor. They also must earn a 1.0 (C) average on all work undertaken. NOTE: For engineering technology majors only, applied mathematics and applied science shall be considered as mathematics and science.

General Organization

The mathematics requirements for a degree in the liberal arts college is six hours of mathematics which may be satisfied as follows:

> Students entering with one year algebra and a year of geometry take Mathematics 1308, Introduction to College Algebra and Mathematics 1310, General College Mathematics.
>
> Students with two units of high school algebra take Mathematics 1309, General College Mathematics, and Mathematics 1310.
>
> Those with three or more units in high school mathematics may take Mathematics 1309 and Mathematics 1310 or Mathematics 1311, College Algebra and Mathematics 1310 or any course numbered higher than Mathematics 1311, (Mathematics 1314 for business and economics, Mathematics 1323, Trigonometry).
>
> Psychology majors are required to take Mathematics 1311 and either Mathematics 2311, Introduction to Probability and Statistics, Mathematics 1323 or Mathematics 1333, Analytic Geometry. If these students enter with only one year of algebra and a year of geometry, they must take Mathematics 1308 as a prerequisite for Mathematics 1311.

The mathematics requirement for the Business Administration degree is Mathematics 1311 and Mathematics 1314.

In the school of science, all programs require Mathematics 1311, College Algebra, and Mathematics 1323, Trigonometry. This is all that is required for biology majors, pre-medical and pre-dental majors.

Chemistry, geology, mathematics, physics majors are required to take Mathematics 1311, 1323, and 1333. Additional courses are required by these departments.

The first course in mathematics that may count toward graduation in the school of engineering is Mathematics 1333. The prerequisite for Mathematics 1333 is Mathematics 1311, College Algebra, and Mathematics 1323, Trigonometry, or Mathematics 1324, College Algebra and Trigonometry. Students that are not placed in analytic geometry by their counselors are required to take the prerequisites.

Course Content

Mathematics 1308, Fundamentals of College Algebra: Designed for students with one year of high school algebra and one year of high school geometry. Topics are the properties of real numbers, polynomials, fractions, first-degree equations and inequalities, exponents, and radicals, second-degree equations, functions and graphs, systems of equations, sequences and series.

Mathematics 1309, General College Mathematics: Designed for students with two years of algebra, this course consists of a study of sets, logic, sets of numbers, relations and functions, graphs, and an introduction to elementary geometry.

Mathematics 1310, General College Mathematics: Designed for students who plan to take only six hours of mathematics. Prerequisite for this course is either Mathematics 1308 or 1309. Topics included are sets, the number system, classical and modern geometry, equations, inequalities and functions.

Mathematics 1311, College Algebra: Designed for students with two years of high school algebra or Mathematics 1308. Topics included are properties of real numbers, relations and functions, non-linear relations, exponential and logarithmic functions, matrices and determinants, complex numbers, theory of equations, sequences, series, and probability.

Mathematics 1314, Mathematics for Business and Economic Analysis: Consists of a study of linear equations, logarithms, differential calculus, integral calculus, and probability. For students of business.

Mathematics 1323, Trigonometry: Designed to prepare students for continued study in mathematics, engineering and the natural sciences. Topics include the trigonometric functions, the right triangle, identities, graphs of the trigonometric functions, composite angles, logarithms, oblique triangles, inverse functions, trigonometric equations, vectors, and complex numbers.

Mathematics 1324, Algebra and Trigonometry: Designed for engineering students with two years of algebra, one year of geometry, and one-half year of trigonometry and with above average grades. Composed of a study of sets, the number system, inequalities, functions, determinants, theory of equations, the binomial theorem, complex numbers, mathematical induction and progression.

Mathematics 1333, Analytic Geometry: This course is a study of the coordinate system, the straight line, the circle, the conic sections, curve sketching, parametric equations, polar coordinates, the basic tools in space and equations of surfaces in space.

Exit Requirements

The final examination is counted as one-third of the final grade in all freshman courses. In the first semester freshman mathematics courses (Mathematics 1308 1309 and 1311) departmental objective examinations are used for one-half of the final examination.

A passing grade is required.

Austin College

Sherman

Entrance Procedures

Standard admission requirements at Austin College call for graduation from an accredited high school with rank in the upper half of the graduating class, completion of at least three academic units in mathematics, and satisfactory performance on the Scholastic Aptitude Test (SAT) portion of the College Entrance Examination Board (CEEB) examinations. Achievement test scores must also be presented in three academic subjects. Candidates not meeting the standard criteria may be admitted by special action of the Student Standards Committee.

A student presenting a score of 625 or higher on the CEEB Level II Achievement Test in mathematics is exempted (advanced standing) from the precalculus course in analysis, Mathematics 113, 114. Advanced standing may also be achieved by satisfactory completion of a departmental examination administered during the orientation period preceding registration. No credit is given for advanced standing.

A student presenting a score of 3, 4, or 5 on the CEEB advanced placement examination in calculus is exempted (advanced placement) from the first six of the nine hour sequence in unified calculus and analytic geometry. Advanced placement is also granted upon satisfactory completion of a departmental examination during the orientation period. Credit is given for any course exempted through advanced placement. In special cases the department may grant exemption and credit for three hours of the calculus sequence.

General Organization

Austin College is a liberal arts college, and confers only the baccalaureate degree in Arts. The institutional requirement for this degree includes six hours of mathematics or physical science.

Freshman courses applicable to this requirement include:

- a pre-calculus course in Fundamentals of Analysis, Mathematics 113, 114;

- a non-major course in Fundamental Concepts of Mathematics, Mathematics 132;

- a non-major course in Foundations of Geometry, Mathematics 131;

- the first year of the unified calculus and analytic geometry sequence, Mathematics 133, 134.

Except for specific programs (chemistry, physics, mathematics, cooperative engineering programs) there is no institutional requirement in mathematics beyond the freshman level. Economics majors planning graduate study are encouraged to obtain the equivalent of a minor in mathematics. Elementary education majors are required to take the non-major Mathematics 132 course.

Course Content

Mathematics 113, 114, Fundamentals of Analysis: A pre-calculus course in analysis, including emphasis on logic and proof, analytic geometry of the straight line, conics, curve sketching, and strong emphasis on functions and inequalities.

Mathematics 131, Foundations of Geometry: A terminal course for the non-major stressing the axiomatic structure of geometries. Includes a study of betweeness, congruence, similarity, parallelism, and other fundamental concepts.

Mathematics 132, Fundamental Concepts of Mathematics: A terminal course, designed for the non-major, dealing with abstract mathematical systems from an elementary point of view. Emphasis placed on number systems, their logical structure, and their properties. Required of elementary education majors.

Mathematics 133, 134, Calculus and Analytic Geometry I, II: A study of the differential and integral calculus of one real variable from a relatively rigorous point of view.

Exit Requirements

Students receiving a grade of D or F in the above courses are permitted to repeat the course. No special courses are structured for such students. Both grades remain on the transcript, but only the last grade is used in computing the grade-point average. A student is not generally permitted to repeat a course more than one time.

A grade of C or higher is required.

Baylor University

Waco

Entrance Procedures

General entrance requirements to Baylor University are set forth in the General Information Catalog of the University. This catalog as well as those for the specific colleges and schools, is available from the Registrar, Baylor University, Waco, Texas 76703.

The entrance requirement in mathematics is "Mathematics, including at least two units in algebra or geometry--two units."

Placement tests are given in college algebra and trigonometry. No college credit is given for these, but a student who passes such tests is permitted to waive the required college course in mathematics. He does not have to take mathematics courses at Baylor University, but is required to complete the total number of hours required for his degree.

General Organization

In general, a student entering Baylor is required to take three to six hours of college mathematics. These are satisfied by Mathematics 103, College Algebra, and Mathematics 104, Trigonometry. He may remove the mathematics requirement by taking the placement test as described above. College algebra and mathematics for business (not business arithmetic) are required for a degree in business.

Those majoring in mathematics and the sciences will continue with the Analytic Geometry-Calculus sequence, Mathematics 108, 109, 208, and 209 (three hours each). These should be completed by the end of the sophomore year. If the student is required to take college algebra or trigonometry, these should be taken in the summer session before entering the junior year.

Course Content

Mathematics 103, College Algebra: Required of business majors, mathematics and science majors. May be waived by a placement test. Topics are theory of equations, permutations, probability, and determinants.

Mathematics 104, Plane Trigonometry: Trigonometric functions, identities, equations. May be waived by a placement test.

Mathematics 108, Analytic Geometry-Calculus I: Straight lines, conics, and solid analytic geometry.

Mathematics 109, Analytic Geometry-Calculus II: Limits, differentiation and integration of polynomials, application to maxima and minima.

Mathematics 208, Calculus I: Differentiation and integration of transcendental forms.

Mathematics 209, Calculus II: Infinite series, expansion of functions, multiple integration.

Exit Requirements

The course grade is determined by the instructor of the course. A passing grade is required.

Four tests are given during the semester. These, with the final examination grade, determine the course grade. No limit is set on the number of times a course may be repeated other than requirements for continued residence in Baylor University. Mathematics majors must make at least a C grade on any freshman or sophomore course or he is required to repeat the course.

Bishop College

Dallas

Entrance Procedures

For admission, Bishop College requires graduation from an accredited high school with preference given students with at least two units of high school mathematics.

Entering freshmen are encouraged to attend the summer "pre-college" program following their graduation from high school. The nine-weeks program consists of mathematics and English courses only. The mathematics sections meet for two hours daily. An examination is given to all freshmen not attending the summer "pre-college" program during orientation week for placement purposes. Students attending the "pre-college" program are placed according to the recommendations of the "pre-college" faculty.

Advanced placement (without credit) is allowed in all mathematics courses either by an acceptable score on the quantitative portion of the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board (CEEB) or by recommendation of the "pre-college" faculty. Freshmen without college credit are not admitted to the college during the summer session. The curriculum of the "pre-college" program is divided into three parts: Remedial (Arithmetic), Algebra I and Algebra II.

General Organization

The baccalaureate degrees in Arts and Sciences are conferred by Bishop College. Each degree requires the completion of six semester hours of mathematics courses. Most students who do not plan to major or minor in mathematics satisfy the minimum requirement in mathematics with Mathematics 101 and 102, General Mathematics. Others take Mathematics 121, College Algebra, and Mathematics 104, Trigonometry.

Course Content

Mathematics 101 and Mathematics 102, General Mathematics: A survey course with topics from arithmetic, algebra, geometry and trigonometry. Open to any student admitted to Bishop College. Credit in this course cannot be counted for a major or minor in mathematics.

Mathematics 104, Trigonometry: A study of the trigonometric functions, solution of right and oblique triangles, trigonometric identities and equations, logarithms.

Mathematics 121,. College Algebra: Topics of algebra, such as sets, properties of the integers, rational and real numbers, factoring, solution of linear and quadratic equations, mathematical induction and complex numbers are covered from the modern viewpoint.

Mathematics 232, Analytic Geometry: Coordinate geometry of the straight line and conic sections, rotation and translation of the axes, and curve tracing.

This course, taught in the fall semester of 1965, will be combined with Calculus I beginning in the fall semester of 1966.

Mathematics 341, Calculus I: Theory and applications of the differential calculus.

In courses with many sections, several full-time members of the department serve as coordinators to organize the syllabus. One test is administered to all sections simultaneously near the end of the semester.

Exit Requirements

A passing grade is required. In addition to homework and several tests, each student is required to take the final examination. No limit is set on the number of times a course may be repeated other than the general requirement for continuance in the college.

Blinn College

Brenham

Entrance Procedures

For admission, Blinn College requires that a graduate of an accredited high school must have completed at least two units of high school mathematics. The American College Test (ACT) is required of all freshman students for guidance purposes. This along with the record of high school work will be used by the advisor in helping the student to select the mathematics courses most suited to his background and ability. No advanced placement examinations or credit are given by Blinn College.

Freshmen entering during the summer session follow the same admission procedures.

General Organization

The associate degree in Arts is conferred by Blinn College, but there is no general requirement in mathematics for this degree. For areas requiring six hours of mathematics we recommend college algebra and plane trigonometry or mathematics of investment, though education majors often take Mathematics 130 and 133, Elements of Modern Mathematics.

Course Content

Mathematics 130 and Mathematics 133, Elements of Modern Mathematics: Designed primarily for students majoring in elementary education or education with a mathematics option. Consists of the algebra of sets, introduction to logic, numeration systems, fundamental operations of arithmetic with emphasis on structure, development of the set of real numbers, finite numeration systems and applications.

Mathematics 131, College Algebra: Topics include sets, proofs, complex numbers, mathematical induction, binomial theorem, factoring, equations and systems of equations, vectors and matrices, polynomial functions, graphs of polynomial functions, and inequalities.

Mathematics 132, Trigonometry: Topics include trigonometric functions developed from the unit circle, solutions of right triangles, trigonometric identities and equations, graphs of trigonometric functions and logarithmic functions, inverse trigonometric functions and graphs.

Mathematics 231, Analytic Geometry: Includes a brief review of the Cartesian coordinate system, and the measurement of distances in the Cartesian plane. Other topics are the straight line, circle, conic sections, the general second degree equations, other algebraic curves, transcendental functions, polar coordinates, parametric equations, introduction to three dimensional geometry.

Mathematics 233, Calculus I: Begins with a brief review of set notation and the concept of a function as a set of ordered pairs. Topics include the concept of the limit of a function, continuity, the derivative defined as the limit of a function, applications of the derivative, Rolle's theorem, mean value theorem for derivatives, antidifferentiation and introduction to the definite integral concept.

Many students take Mathematics 231 and 233 concurrently during their second semester; students with a good background including elementary analysis in high school usually elect to take Mathematics 231 their first semester and 233 their second semester.

Exit Requirements

Approximately four examinations are given during the semester in addition to the final examination. No examinations are given on a departmental level; however, comparisons are usually made by the instructors. Daily quizzes, major examinations, and the final examination usually account for 75% of the final grade. A passing grade is required. A course may be repeated for the purpose of raising the grade as many times as the students desire, though usually only one repetition is attempted.

Cisco Junior College

Cisco

Entrance Procedures

Cisco Junior College requires for entrance that a student be a graduate of an accredited high school and have completed at least two units of high school mathematics. Students must also present scores on American College Tests (ACT) prior to registration. Advanced placement (without credit) past college algebra and/or trigonometry may be obtained if a student has appropriate high school background and a suitable ACT score.

General Organization

Students who plan to major in mathematics, science, engineering or business administration must take college algebra and/or trigonometry. Students with other majors satisfy the minimum requirements in mathematics by taking Mathematics 133, Concepts of Modern Mathematics.

Course Content

Mathematics 113, College Algebra: Course content includes quadratic equations, simultaneous quadratic equations, variation, progressions, binomial theorem, theory of equations, introduction to set theory, permutations and combinations, partial fractions, inequalities and mathematical induction. Prerequisite: Two years of high school algebra or consent of dean.

Mathematics 123, Trigonometry: Includes trigonometric functions and formulae, theory and use of tables, identities, right and oblique triangles, inverse trigonometric functions, and complex numbers.

Mathematics 103, Business Mathematics: Includes the study of interest, annuities, bonds, insurance, mark-up, cost, discount and loans.

Mathematics 133, Concepts of Modern Mathematics: Includes introduction to modern mathematical concepts, number systems, fundamental properties and operations of a number system, study of symbols, elementary set theory, and elementary algebraic structures. No credit is given toward a degree for major in mathematics; the course is recommended for elementary education majors.

Mathematics 213, Plane Analytic Geometry: Includes basic formulae, straight lines, circles, conic sections, translation and rotation, polar and parametric equations. Prerequisites: Algebra and trigonometry.

Mathematics 223, Differential Calculus: An elementary course in integral calculus. Prerequisite: Mathematics 213.

Mathematics 233, Integral Calculus: An elementary course in integral calculus. Prerequisite: Mathematics 223.

Exit Requirements

A passing grade is required. The final course grade is determined by the instructor, but the chairman of the mathematics department furnishes guidelines. In addition to homework and several tests, each course has a final examination.

Clarendon Junior College

Clarendon

Entrance Procedures

Clarendon College requires the American College Test (ACT) of all individuals who are entering college for the first time. High school graduates must have completed two accredited units of mathematics. Related Mathematics is accepted; General Mathematics is not. ACT scores and the student's high school records are considered in placing the student in the mathematics course best suited to his ability and background. Graduates from non-accredited high schools may be admitted on the basis of written examinations. An applicant who has not completed high school may be admitted by individual approval if he is twenty-one years of age or older. Entrance requirements are the same for summer school as for the fall.

General Organization

The associate degree in Arts is conferred by Clarendon College. There is no mathematics requirement for this degree.

Most students who are not mathematics or science orientated take Business Mathematics 233 or Mathematics 105, Introductory College Mathematics.

Course Content

General: With the exception of the first part of introductory mathematics, the traditional approach is generally the rule in regularly scheduled courses at Clarendon College. The commutative, associative, and distributive properties of operations are emphasized, however, along with inverses, and the operational properties of one and zero. In short, the structure of the real number system is emphasized whenever it will serve to clarify a mathematical concept.

Mathematics 105, Introductory Mathematics: Designed for students who do not expect to take additional mathematics courses. Consists of historical and logical development of the real number system and algebra. This course replaces Mathematics 100, Commercial Algebra, which was discontinued as of January, 1966.

Mathematics 110, Use of the Slide Rule: Slide rule manipulation for solution of problems of elementary chemistry and physics courses. Prerequisite: Knowledge of logarithms.

Mathematics 113, College Algebra: Principles of algebra, complex numbers, determinants, theory of equations, progressions, binomial theorem, and applications. Prerequisite: Two years of high school algebra or Mathematics 100.

Mathematics 123, Plane Trigonometry: Functions of angles and sides of triangles, identities, logarithms, graphs and applications. Prerequisite: Mathematics 113.

Mathematics 123A, Analytic Geometry: Cartesian coordinates, curve and equations, the straight line, the circle, conic sections, transcendental curves, polar coordinates, and parametric equations. Prerequisite: Mathematics 123.

Exit Requirements

A passing grade is required. The course outline includes five or six one-hour tests. A final examination is given in each course; it constitutes one-third of the semester grade as does each nine-weeks grade. When a course is repeated, the most recent grade stands as the permanent record whether or not it is an improvement over the first grade received in the course.

Concordia College

Austin

Entrance Procedures

For admission, Concordia Lutheran College recommends that its entering high school graduates have a minimum of three units of mathematics; this is not a requirement.

Mathematics entrance tests are not used exclusively to determine a student's mathematical acumen, although the results of Sequential Tests of Educational Progress (STEP) Mathematics tests in conjunction with high school transcript records serve as a basis for placement of students in the mathematics curriculum. All students are required to take STEP tests.

No advanced placement examinations are given. In the fall of 1966, an expanded mathematics curriculum will be introduced; if student background warrants advanced placement and credits at that time, such policies will be incorporated in the program.

No summer sessions are offered presently at Concordia College.

General Organization

Concordia College is a junior college offering training at the freshman and sophomore levels for teacher-training students, who transfer to senior teacher colleges, and pre-ministerial students who transfer to a senior college preparatory to entering seminary training. In the fall of 1966, the curriculum will be expanded to supply junior college offerings toward further study in liberal arts, business administration, and public education.

Pre-ministerial candidates have no mathematics requirements.

Teacher-training students generally take one semester of mathematics in their sophomore year (this will be changed to their freshman year starting in the fall of 1966).

Students with two years of high school algebra with a C or better grade average take College Algebra C-245. Other students can fulfill mathematics requirements by taking Modern Mathematical Concepts C-243.

Enrollment in the mathematical curriculum is such that Mathematics C-243 is offered in the fall and College Algebra C-245 is offered in the spring.

Each of the mathematics courses is taught by a full-time instructor who divides teaching time between the physics department and the mathematics department.

In anticipation of an expanded liberal arts curriculum offering for the fall semester of 1966, two additional freshman mathematics courses are planned for liberal arts students starting at that time. These two courses are Trigonometry C-246 and Analytic Geometry C-247.

Course Content

Modern Mathematical Concepts, C-243: Designed specifically to fill the need for students without previous experience with modern mathematics. Number systems and their construction, sets, relations, a study of binary operations, the basic axioms, identities, inverses, algorithms, special relations for whole numbers, integers, rational numbers, and real numbers.

College Algebra, C-245: Binary operations, mental multiplication, factoring, linear and fractional equations, variations, logarithms, functions, graphical methods, and numerical trigonometry.

Exit Requirements

A passing grade is required. Five examinations including the final are given in each mathematics course. The final course grade consists of an average of homework grades, test grades, and the final examination; each of the mentioned items counting one-third toward the final grade.

Cooke County Junior College

Gainesville

Entrance Procedures

Cooke County Junior College still operates on the "open door" policy. The results of the scores on the American College Test (ACT), the School and College Ability Tests (SCAT), and the record of high school work will be used by the student's counselor in placing the student in the mathematics course suited for his abilities.

No advanced placement and credit is recommended by the college.

General Organization

Cooke County Junior College provides the opportunity for local students to complete the first two years of college. Students who do not plan to major or minor in mathematics satisfy the minimum requirements in mathematics by taking Mathematics 113b, algebra for business students, or Mathematics 113, College Algebra, and Mathematics 123, Trigonometry. Mathematics 113b may not be counted toward a major or minor in mathematics.

Course Content

Math 113b, Intermediate Algebra: Designed for students in business administration and in the non-technical fields, this course is a review of fundamental operations of algebra, linear equations, exponents, radicals, quadratics, ratio, proportion, variation and progressions.

Math 113, College Algebra: Designed for pre-engineering, mathematics, and science majors, this course includes a brief review of elementary topics followed by a more intensive study of progressions, probability, permutations, combinations, complex numbers, systems of linear equations and mathematical induction.

Math 113m, Modern Mathematics: Language and theory of sets, elementary symbolic logic, axiomatic theories, field of real numbers, and algebraic structures. Designed for elementary school teachers.

Math 123, Plane Trigonometry: Functions of angles, logarithms, solution of right and oblique triangles, identities, radian measure, and inverse trigonometric functions.

Math 213, Analytic Geometry: Definitions and formulas, lines, circles, conic sections, polar coordinates, transformation of coordinates, tangents and normals, and parametric equations.

Exit Requirements

Five examinations, including the final, will be given each semester. From the examinations and a record of daily work, the final grade is determined. A uniform grading standard is provided by the mathematics department. A passing grade is required.

A course may be repeated for the purpose of raising the grade. The second grade becomes a part of the student's permanent record.

Del Mar College
Corpus Christi

Entrance Procedures

Two units of high school mathematics are required for entrance to Del Mar College. Students who do not have two units of algebra from high school enter with a deficiency that must be made up by taking intermediate algebra. For students planning to study engineering, three and a half units of high school mathematics are considered minimum requirements.

A short examination for placement purposes is given to all entering freshman students. The results of the examination, the record of high school work and the scores on the American College Test (ACT) are used by the student's advisor in placing the students in the proper mathematics courses. Students may be advised to take a remedial course in algebra, college algebra, or an advanced placement examination in college algebra and trigonometry. Credit is given in college algebra and in trigonometry if the scores on the advanced placement examinations are satisfactory.

Freshmen are admitted during the summer session with no change in admission procedures.

General Organization

Mathematics is not a requirement for graduation from Del Mar College. Students who plan to take only six semester hours of mathematics normally take college algebra and trigonometry in the fall semester and analytic geometry in the spring semester. Advanced placement students take analytic geometry or analytic geometry and differential calculus in the fall semester of the freshman year. Other courses are offered to fit special needs including a remedial course in intermediate algebra for those not prepared to take college algebra.

Course Content

Mathematics 301, Intermediate Algebra: An intensive study of the operations of algebra. Designed to fill the needs of students not eligible for college algebra.

Mathematics 303, Engineering Problems: A study of the slide rule with intensive practice in the use of all scales and a study of the solution of typical mathematical problems from the field of engineering, including dimensional analysis, mechanics, moments, equilibrium, motion, work, friction, energy, power, and acceleration. Prerequisite: Mathematics 304 or high school trigonometry. Students in technical fields may take Mathematics 303 and Mathematics 304 concurrently.

Mathematics 309, College Algebra: A study of the fundamentals of algebra including sets, numbers, algebra as a logical system, factoring, fractions, exponents and radicals, inequalities, functions and their graphical representation, linear and quadratic functions, determinants, mathematical induction, and progressions. Prerequisite: Satisfactory scores on placement tests, or two years of high school algebra and approval of the department of mathematics, or Mathematics 301 with a grade of C or better.

Mathematics 304, Trigonometry: A study of trigonometric functions, logarithms, identities, equations involving trigonometric functions, solutions of right and oblique triangles, and complex numbers. Prerequisite: Mathematics 309. (May be taken concurrently by pre-engineering students.)

Mathematics 305, Analytic Geometry: Application of Cartesian coordinates to the straight line, the conics, higher plane curves, use of polar and parametric equations. Prerequisite: Mathematics 304 and 309 with grade of C or better in each. (Students with outstanding proficiency in mathematics may absolve the prerequisites for Mathematics 305 by examination).

Mathematics 308, Mathematics of Finance: A study of simple interest and discount, compound interest, ordinary and general annuities, amortization, sinking fund methods, depreciation, depletion, and capitalized costs. Will fulfill a three-hour requirement for the BBA degree in most colleges. Prerequisite: Mathematics 309.

Mathematics 310, Advanced Algebra: An introduction to the study of an ordered field and elementary function theory, including continuity, completeness property, limits, and derivatives. Prerequisite: Mathematics 309 or the equivalent.

Mathematics 613A, Differential Calculus: The study of the limit and the function concept, differentiation of algebraic and transcendental functions, maxima and minima, differentials, simple integration and the definite integral. Prerequisite: Mathematics 305 with grade of C or better. (With special permission, Mathematics 305 and 613A may be taken concurrently.)

Mathematics 613B, Integral Calculus: Advanced integration, reduction formulae, series, expansion of functions, partial derivatives, multiple integrals. Prerequisite: Mathematics 613A.

Exit Requirements

Each instructor determines the course grades of his students. In addition to homework or short tests, an average of approximately four one-hour examinations is given in each course, and each course has a final examination.

Students may repeat courses but a student who has failed a course twice may be excluded from further repetition of that course upon recommendation of the chairman of the department and the approval of the dean of the college.

East Texas Baptist College
Marshall

Entrance Procedures

The requirements for admission to East Texas Baptist College are:

Graduation from an accredited secondary school with fifteen approved entrance units including: English, four units; mathematics, two units; natural sciences, two units; social sciences, two units; electives, five units.

Applicants with not more than two deficiencies will be considered but must submit their complete record for examination by the admissions committee and these deficiencies must be removed immediately when appropriate courses become available.

Applicants should submit scores on the American College Test (ACT). Results of this examination and the record of high school work will be used by advisors in placing students in the mathematics courses most suited to their background and ability.

Advanced placement and credit will be allowed in all mathematics courses in which the Educational Testing Service (ETS) offers examinations.

Freshmen are admitted to the summer session with admission procedures being the same as those above.

General Organization

Baccalaureate degrees in Arts and Sciences are conferred by East Texas Baptist College. Both degrees require the completion of six hours of mathematics. Most students who do not plan to major or minor in mathematics satisfy the minimum requirement in mathematics by taking Mathematics 135 and Mathematics 136, Introduction to Mathematics. This requirement can be met by obtaining credit for Mathematics 133, College Algebra, and Mathematics 132, Trigonometry, or any two higher numbered courses. Mathematics 135 and Mathematics 136 may not be counted toward a major or a minor in mathematics.

Course Content

Mathematics 101, Elements of Mathematics: This is a non-credit course required of all students who do not qualify for Mathematics 135, 133 or 231. Fundamental operations of arithmetic and algebra, solution of linear and quadratic equations, and some treatment of basic concepts in geometry.

Mathematics 135 and Mathematics 136, Modern Introduction to Mathematics: Designed to provide non-science and non-mathematics majors modern concepts of present-day mathematics. Natural and complex numbers, groups, miniature geometries, transfinite numbers, Boolean algebra, non-Euclidean geometry and topology. There is an introduction to logic and trigonometry.

Mathematics 132, Trigonometry: Vectors, number systems, polar coordinates, properties of the trigonometric functions, elementary functions, and triangle solving.

Mathematics 133, College Algebra: A postulational approach to the logical nature of algebra, sets, inequalities, concepts of function and relation, mathematical induction, permutations and combinations, determinants, infinite series, and partial fractions.

Mathematics 231, Calculus with Analytic Geometry I: Analytic geometry with applications of the derivative, a study of functions, the limit concept, differentiation and applications.

Exit Requirements

Approximately five examinations will be given in each course. The course grade will be determined, for the most part, by these examinations, but other factors may be considered.

A course may be repeated for the purpose of raising the grade. When this repetition is made, the second grade shall stand as the permanent record whether or not it is an improvement over the first grade received.

East Texas State University

Commerce

Entrance Procedures

Graduates of accredited high schools may be admitted to the freshman class. The sixteen units presented must include at least six units from mathematics, social studies, natural science and foreign language.

An advanced placement test is offered on a voluntary basis to all freshmen during the orientation program preceding each semester and the summer session. The student's score on this test, Educational Testing Service (ETS) Advanced Placement Test in mathematics and his high school record are used by the department in placing the student in the mathematics course appropriate to his mathematical knowledge.

Students with a scoring sufficiently high on the ETS examination may be enrolled in the analytics-calculus sequence. Advanced placement is without credit in college algebra or trigonometry.

Freshmen are admitted to the summer session and are encouraged to enroll at that time. Admission procedures are the same as those for the regular session.

General Organization

Most students enroll in one or more courses in mathematics during their freshman year. The course selection depends upon a student's preparation and interest.

The general requirement of one course in mathematics can be met by completing General Studies 131, Introduction to Modern Mathematics, but any other course in mathematics satisfies this requirement. Students majoring in the department of business administration are required to take Mathematics 175, Business Mathematics. Mathematics 218, Mathematics of Finance is another non-sequential course open to freshmen. It may be elected by a student who has completed Mathematics 175 and is required of those majoring in mathematics in the teacher education program. Although open to freshmen, it is generally taken during the second year.

Other mathematics courses open to freshmen are sequential and are to be taken in the following order except as noted below.

Mathematics 111, College Algebra
Mathematics 112, Trigonometry
Mathematics 121, Analytical Geometry
Mathematics 224, Differential Calculus
Mathematics 225, Integral Calculus

With sufficient background or advanced placement a student may register for two of these courses simultaneously. The most frequent combinations are Mathematics 111 and 112 or Mathematics 121 and 224.

Course Content

General Studies 131, Introduction to Modern Mathematics: Features the study of mathematics as communication. Involves the language and theory of sets, elementary symbolic logic, axiomatic theories, field of real numbers, algebraic structures.

Mathematics 175, Business Mathematics: Discount and compound interest, sales tickets and billing, mark-up, commissions and payrolls, social security and other taxes, installment plans, inventories, insurance and graphs. Required of students majoring or minoring in business administration.

Mathematics 218, Mathematics of Finance: Simple interest and simple discount, compound interest, annuities with simple data, bonds and general annuity formulas, building and loan associations. Prerequisite: Three hours of mathematics.

Mathematics 111, College Algebra: Quadratic equations, solutions of equations in several unknowns, ratio and proportion, variation, arithmetic and geometric progressions, the binomial theorem, permutations and combinations, elementary theory of equations. Prerequisite: Two units of high school algebra.

Mathematics 112, Trigonometry: Trigonometric functions, logarithms, radians, solutions of triangles, functions of composite angles, identities and trigonometric equations. Prerequisite: Two units of high school algebra or taken concurrently with Mathematics 111.

Mathematics 121, Plane Analytical Geometry: Introductory concepts, the straight line, the circle, conic sections, transformation of coordinates, polar coordinates, parametric equations. Prerequisite: Consent of department.

Mathematics 224, Differential Calculus: Limits, differentiations, rates, maxima and minima, curvature. Prerequisite: Mathematics 121.

Mathematics 225, Integral Calculus: Rules for integrating elementary forms, definite integrals, areas, lengths, volumes. Prerequisite: Mathematics 224.

Exit Requirements

Grades are determined by the individual instructor. To receive credit in a course, a student must have a passing average on homework, several one-hour tests, a final examination, and possible short daily tests in addition. There is not a restriction on repeating courses except that a student must satisfy the University's requirements for registration.

Frank Phillips College

Borger

Entrance Procedures

For admission Frank Phillips Junior College requires that a graduate of an accredited high school must have completed at least two units of high school mathematics and have taken entrance tests. The American College Test (ACT) program is recommended.

The ACT Mathematics Placement Examination, Experimental Edition, was administered the first week of the 1965 fall semester. The scores of these tests and the history of the student's previous mathematics performance were used in advising him as to the mathematics courses in which he should enroll. A similar program will be used in the future. Advanced placement will be allowed in all mathematics courses for which a student is found to be qualified.

Freshmen are admitted during the summer session. Admission procedures are the same as those for the regular session.

General Organization

Frank Phillips Junior College requires that 62 semester hours of work be passed with an average of C before a student will be approved for graduation.

If a student does not have two years of high school algebra and needs a better foundation in mathematics, he would be enrolled in Mathematics 133, Intermediate College Algebra. Others may enroll in Mathematics 113, College Algebra, and Mathematics 123, Trigonometry, during the first semester, Mathematics 163, Analytic Geometry, and Mathematics 213, Differential Calculus, the second semester. In the sophomore year, a student may be eligible for Mathematics 223, Integral Calculus, Mathematics 233, Calculus Applications, and finally, Mathematics 253, and 263, Higher Mathematics.

If a student has successfully completed two years of high school algebra, plane and solid geometry, trigonometry, and some advanced mathematics, he may be eligible for Mathematics 163, Analytic Geometry, and Mathematics 213, Differential Calculus.

If a student is a business major, he would be advised to take Mathematics 133, Intermediate College Algebra, or Mathematics 113, College Algebra, and Mathematics 123, Trigonometry. He will be expected to take Business Mathematics 143. After 1966, he will be required to take advanced mathematics.

Course Content

Mathematics 133, Intermediate College Algebra: Sets, formulas, fundamental operations, simple equations, special products and factoring, fractions and fractional equations, functions and graphs, systems of linear equations, exponents and radicals, and quadratic equations. This course is designed to cover the algebra which should have been obtained in high school.

Mathematics 113, College Algebra: Quadratic equations, systems of equations involving quadratics, ratio, proportion, variation, progressions, mathematical induction, the binomial theorem, inequalities, complex numbers, theory of equations, determinants, partial fractions and an introduction to sequences and infinite series.

Mathematics 123, Trigonometry: Trigonometric functions, solution of right and oblique triangles, trigonometric identities and equations, graphs of the trigonometric functions, radian measure, logarithms, inverse trigonometric functions. Mathematics 113, College Algebra is a prerequisite for the course.

Mathematics 163, Plane Analytic Geometry: Rectangular coordinates, fundamental definitions and theorems, functions and graphs, equation of a locus, the line, polynomials, rational fractional functions, transformation of coordinates, the circle, the parabola, ellipse, hyperbola, algebraic curves of higher degrees, the trigonometric curves, the exponential and logarithmic curves, parametric equations, polar coordinates, and curve fitting.

Mathematics 213, Differential Calculus: The idea of a derivative and its applications, concept of a limit, and the development of the theory and reasoning behind the derivative.

Mathematics 223, Integral Calculus: Concepts of definite and indefinite integrals, rules for integrating elementary forms and their applications with respect to lengths, areas, and volumes. Mathematics 213 is a prerequisite for this course.

Mathematics 233, Calculus Applications: Calculus applications with regards to centroids, moments of inertia, pressure, work, partial differentiation, series, multiple integrals, and hyperbolic functions. Prerequisite: Mathematics 223.

Mathematics 223 and 233 are offered in a tandem arrangement. Mathematics 223 meets five days a week for nine weeks and upon successful completion the student continues with Mathematics 233 in a similar arrangement.

Exit Requirements

A passing grade is required for each mathematics course used for graduation.

Hardin-Simmons University

Abilene

Entrance Procedures

For admission, Hardin-Simmons University requires that a graduate of an accredited high school must have completed at least two units of mathematics.

Freshmen must also make an acceptable score on the American College Test (ACT). At the present time, all freshmen are placed in the same beginning course. It is possible for mathematics majors and minors to validate freshman mathematics, without credit, by scoring well on departmentalized tests; but they must complete six additional hours in upper division work. Summer admission policies are the same as for the regular session.

General Organization

The baccalaureate degrees in Arts, Science and Business Administration are conferred by Hardin-Simmons University. The baccalaureate degree in Arts requires completion of six semester hours in the department of mathematics. The baccalaureate degree in Science (for certification to teach in Texas) requires the completion of at least eighteen semester hours to be chosen from at least two of the three fields of mathematics, foreign language, and laboratory science. Students not majoring or minoring in mathematics satisfy the minimum requirement in mathematics by taking Mathematics 113, College Algebra, and Mathematics 123, Elementary Statistics. Mathematics 123 may not be counted toward a major or minor in mathematics.

Course Content

Mathematics 113, College Algebra: Develops computational skills in algebra as a basis for future courses, and an appreciation of algebra as a logical subject. First course in college algebra.

Mathematics 123, Elementary Statistics: Basic elements of statistics with elementary applications to various fields. Terminal for general education requirements. Prerequisite: Mathematics 113A.

Mathematics 133, Analytic Trigonometry: A study of coordinate systems, vectors, complex numbers, the trigonometric ratios, and solution of triangles. Prerequisite: Mathematics 113A.

Exit Requirements

Approximately five or six examinations, including a final examination, are given in each course. These tests are not departmentalized. Determination of final course grades is left to the instructor. A passing grade is required. No limit is set on the number of times a course may be repeated other than requirements set for continuance in school.

Henderson County Junior College

Athens

Entrance Procedures

The only requirement for admission to Henderson County Junior College is that the student be a graduate of an accredited high school. All students are required to take the American College Test (ACT). The results of this test and the transcript of the student's high school work are used by counselors and student advisors in order to determine the most suitable mathematics course in which the student should enroll.

General Organization

Most of the students entering Henderson County Junior College come from high schools classified from class 3 A to class B, and their knowledge of mathematics varies. Because of this sitation, we have to have two freshman programs which we classify as "accelerated" and "non-accelerated". The "non-accelerated" students are expected to take algebra, trigonometry, analytical geometry and calculus. The latter two courses are combined into one six hour course which allows the student to complete the course in differential calculus their freshman year. This schedule requires twelve hours of mathematics in the freshman year. The accelerated students may be required to take nine hours of mathematics or six hours of mathematics according to their scores on the ACT and their placement by the counselor. All freshman mathematics and engineering students are placed in these programs so they will be at the same level and entering the integral calculus the first semester of their sophomore year. Advanced placement does not give credit in a course.

Course Content

The titles of these courses are self explanatory in most cases except for Mathematics 113A, the first course listed, which is designed for students who are not majoring in mathematics and do not need a rigid application of algebra.

Mathematics 113A, Beginning Algebra
Mathematics 113T, Trigonometry
Mathematics 123, Analytical Geometry and Calculus
Mathematics 113, Algebra
Mathematics 213, Differential Calculus
Mathematics 223, Integral Calculus
Mathematics 223C, Applications of Calculus

Exit Requirements

There are five or six examinations given each semester, the most important of which is the final examination. All grading procedures are left to each individual instructor. All courses may be repeated if a student desires to raise a grade and a grade of D does not allow a student to proceed to the next course without special permission of the instructor.

Hill Junior College

Hillsboro

Entrance Procedures

For unconditional admission, Hill Junior College requires that a graduate of an accredited high school must have completed at least two units of high school mathematics. These units must be in algebra, geometry, solid geometry, or trigonometry. Students who do not meet this requirement may receive conditional admission and register for Mathematics 301 during the first semester in attendance.

Hill Junior College does not offer advanced placement tests. However, students who have a strong background in high school mathematics may register for Mathematics 304 without taking college algebra and plane trigonometry. Even though a student is permitted to enroll in analytical geometry during his first semester, he is not given credit for the prerequisites of algebra and trigonometry.

General Organization

The freshman mathematics courses offered at Hill Junior College are: basic mathematics (remedial), college algebra, plane trigonometry, and analytical geometry.

Course Content

Math 301, Basic Mathematics: Mathematics as a language, number systems, fundamental properties and operations of a number system, algebraic techniques and applications, functions and graphs, solution of equations through quadratics.

Math 304, Analytic Geometry: Points and lines in space and their relationship studied in rectangular and polar coordinates, analysis of the straight line, the circle, conic sections, translation and rotation of axes, equation analysis and higher plane curves. Prerequisite: Math 305 and 309.

Math 305, College Algebra: Fundamental operations, systems of equations, the binomial theorem, series, exponents, logarithms and word problem analysis. Prerequisite: Math 301 or two years of high school algebra.

Math 309, Plane Trigonometry: Prerequisites: Two years of high school algebra or Math 301 and high school trigonometry or permission of instructor.

Exit Requirements

Four to six examinations will be given in each freshman mathematics course during the semester. In addition, a three hour comprehensive final examination will be given at the end of the semester. The final examination may count not more than one-third nor less than one-fourth of the final grade in the course. The remainder of the final grade will be determined by the grades made on the major test and the grades made on daily assignments. The exact method of determining the final grade will be left to the discretion of the individual instructor.

Houston Baptist College
Houston

Entrance Procedures

General entrance requirements are set forth in the Houston Baptist College Bulletin of Information. Admission requirements include that a prospective student be a graduate of a fully accredited secondary school and it is recommended that he have three units of mathematics. Freshman students are admitted to courses in mathematics upon permission of the instructor following evaluation of their mathematical preparation. Course credit in mathematics is allowed provided the applicant makes a satisfactory score on the College Entrance Examination Board (CEEB) Advanced Placement Test in Mathematics. No remedial or non-credit courses are offered at the College.

Freshmen are admitted in the summer session under regular admission procedures.

General Organization

The baccalaureate degree in Arts requires mathematics in support of various academic majors. Chemistry or physics requires 14 semester hours of mathematics. Biology, French, English, German, economics, political science, psychology, or sociology requires six semester hours of mathematics, Art, drama, history, music, physical education and speech majors are encouraged to include at least six semester hours of mathematics in their degree programs whenever it is possible to do so without exceeding the normal time to complete a degree. A major in mathematics requires 24-36 semester hours of mathematics.

Faculty advisors and members of the mathematics department consult with the student regarding his selection of mathematics courses.

Course Content

Mathematics 113, Introduction to College Mathematics: A fundamental course for freshmen. Includes the elements of real numbers, sets, inequalities, functions, and equations.

Mathematics 123, College Mathematics: A continuation of Mathematics 113. Topics include exponential, logarithmic and trigonometric functions, conics, introductory differential and integral calculus for polynomials. Prerequisite: Mathematics 113 or permission of the instructor.

Mathematics 213, Introduction to Probability and Statistics: An elementary study for non-science majors. Topics include: frequency distributions, sets, means, dispersion, discrete and continuous probability, normal distributions, statistical inference. Prerequisite: Mathematics 123 or permission of the instructor.

Mathematics 214, and Mathematics 224, Introduction to Analysis: The beginning of the student's serious study of mathematics. Topics include sets, induction, derivations, integrals, primitives, vectors, conics, arc length, mean-value series, improper integrals, elements of differential equations. Prerequisite: Mathematics 123 or permission of the instructor.

Quizzes or examinations are given periodically at the discretion of the instructor. Each instructor is available to assist students as the need arises.

Exit Requirements

A passing grade is required. The instructor determines course grades. In addition to homework and periodic tests, each course has a final examination. No limit is set on the number of times a course may be repeated other than the general limit established by the College for continuance in good standing.

Howard County Junior College

Big Spring

Entrance Requirements

Two credits of high school mathematics are suggested for the entering high school graduate to Howard County Junior College; however, it is the policy of the college to accept any person graduating from an accredited high school. Transfer students in good standing and those applicants passing the General Education Development Test are also admitted. It is suggested that engineering majors complete three and one-half credits of high school mathematics.

For placement within the mathematics department, a freshman may be required to take a standardized test to determine his level. Those students passing the test are permitted to go into analytic geometry and calculus without taking algebra or trigonometry. No credit is given for courses validated in the advanced placement.

Freshmen are admitted during the summer session in the same manner as in the regular term.

General Organization

Students not majoring or minoring in mathematics or engineering take Mathematics 301, Trigonometry, and Mathematics 303, Algebra. These courses will usually satisfy the student's senior college requirements. Mathematics and engineering students take the advanced placement test and try to go directly into Mathematics 304, Analytic Geometry, and Mathematics 320, Calculus. Students deficient in algebra and trigonometry are advised to remove the deficiency in summer school.

Course Content

Math 301, Trigonometry: Study of the functions of angles, use of the tables, identities, graphs of trigonometric functions, solutions of right and oblique triangles, logarithms, functions of double and half angles, inverse trigonometric functions, and trigonometric equations.

Math 303, Algebra: Content includes a review of linear and quadratic equations, sets, number systems, inequalities, determinants, absolute values, binomial theorem, systems and theory of equations, progressions and variations.

Math 303E, Algebra: Designed to stress the applications of mathematics for students planning to study science and engineering. Content includes factoring, exponents, determinants, linear and quadratic equations, logarithms, partial fractions, theory of equations, binomial theorem, and other related topics. Prerequisite: Two years of high school algebra for this course.

Math 304, Analytical Geometry: Introduces to the student the relation between algebra and geometry. Includes all the fundamental formulas related to Cartesian coordinates and equations, with special emphasis on the straight line, the circle, the parabola, the ellipse, and the hyperbola, higher plane curves, parametric equations, and polar coordinates.

Math 320, Elements of Differential and Integral Calculus: Limit of functions, the derivative and its applications, constant of integration, the definite integral, and integration as a process of summation.

Math 321, Applications of Differential and Integral Calculus: Study of the differentiation of transcendental functions with applications, application of the derivative to polar equations, parametric equations, roots, curvature, and theorem of mean value. The course further includes the integration of standard forms, integration by various devices, reduction formulas and series.

Exit Requirements

To successfully complete a mathematics course, daily application is expected in addition to satisfactory grades on the four or five tests and the semester final. Departmental tests are available to the teachers, but they may use their own if they conform to department standards. Final grades are left up to the individual teachers on approval of the department chairman. A passing grade is required. A course may be repeated for the purpose of raising the grade. The second grade shall stand on the permanent record.

Howard Payne College

Brownwood

Entrance Procedures

A graduate of an accredited high school must have completed two units of mathematics for admission to Howard Payne College.

Students desiring to enter Howard Payne College must furnish the registrar's office with an official transcript of their scores on the American College Test (ACT) or the College Entrance Examination Board Scholastic Aptitude Test (CEEB-SAT). Scores on these tests are used in advising the student, not in placement.

Advanced placement with credit may be obtained by receiving a grade of B or better on an advanced standing examination. A student may apply for an examination in any course for which he has satisfied the necessary prerequisites.

Admission procedures for the summer session are the same as those for the regular session.

General Organization

Baccalaureate degrees are conferred by Howard Payne College in Arts, Science, Music, and Music Education. All degrees require 12 semester hours of science and/or mathematics with a minimum of six hours in a laboratory science and not more than eight hours from any one department. Although a student may fulfill the science-mathematics requirement without taking mathematics, most of the students take Mathematics 131, Introductory Algebra and Mathematics 134, Introduction to Probability and Statistics. Elementary education majors are required to take Mathematics 231, Modern Concepts of Mathematics I: Structure of the Number System, and Mathematics 232, Modern Concepts of Mathematics II: Algebra and Geometry. Students expecting to take Mathematics 251 and 252, Calculus, must take Mathematics 151 and 152, General Mathematics. Very few students take Mathematics 151 and 152 to satisfy the science-mathematics requirement.

Course Content

Mathematics 131, Introductory Algebra: For the general student. Designed to introduce the nature and concepts of classical and modern mathematics. Topics are sets, logic, number systems, algebraic operations, quadratic equations, systems of equations, and functions.

Mathematics 134, Introduction to Probability and Statistics: A beginning course. Topics include the desk calculator, organization and analysis of data, sets, probability, permutations and combinations, the binomial theorem, distributions, sampling, testing hypotheses, regression and correlation. Three-hour lecture and one-hour problem session per week.

Mathematics 151, 152, General Mathematics: A general mathematics course for mathematics, physical, biological and social science majors. Topics include logic, number systems, groups, fields, sets and Boolean algebra, functions, algebraic functions, trigonometric functions, exponential and logarithmic functions, analytic geometry, limits, calculus, statistics and probability. Each course represents five hours lecture per week.

Mathematics 231, Modern Concepts of Mathematics I: Structure of the Number System: Introduction to the modern concepts of mathematics. Emphasis is placed on the structure of the real number system. Topics to be studied are deductive logic, sets, numeration systems, natural numbers, integers, rational numbers, and real numbers. Three hours lecture each week.

Mathematics 232, Modern Concepts of Mathematics II, Algebra and Geometry: Designed to acquaint the elementary education major with the modern concepts of mathematics as related to algebra and geometry. Solutions of equations, algebraic structures, functions, coordinate geometry, plane geometry, and solid geometry are studied. Three hours lecture each week.

A one-hour laboratory each week is required of all students taking Mathematics 134.

Exit Requirements

Approximately five tests, including the final examination, are administered in each of the three-semester-hour courses, with about eight tests being given and all grades and methods of grading are determined by the instructor. A passing grade is required. There is no limit to the number of times a course may be repeated.

Huston-Tillotson College

Austin

Entrance Procedures

The mathematics entrance requirements to Huston-Tillotson College for a graduate of an approved high school is at least two units of high school mathematics.

The College Entrance Examination Board's School and College Ability Test (CEEB-SCAT) is given to all entering freshmen in the fall during orientation week. The counseling and guidance personnel use the result of this examination to place the student in the mathematics course most suited to the student's ability. Huston-Tillotson College does not have any provision for advanced placement.

Freshmen are admitted in the summer session and at the beginning of the second semester, but tests are not administered at these times.

General Organization

For any degree conferred by Huston-Tillotson College, the student must earn at least six semester hours in mathematics. The freshman mathematics program is as follows:

(1) Mathematics 213, College Algebra, Mathematics 223, Trigonometry, for all prospective mathematics and science majors and for those scoring high on freshman tests who elect these courses in place of Mathematics 113 and 123 or;

(2) Mathematics 112 and 123, General Mathematics, required of all students who do not elect college algebra and trigonometry.

A major in mathematics must present 30 hours of mathematics which may include six hours of freshman mathematics. A mathematics minor must have 20 hours which may include six hours of freshman mathematics. A teacher trainee must have 24 hours of concentration in mathematics which may include six hours of freshman mathematics.

Course Content

Mathematics 113 and 123, General Mathematics: A study of fundamental concepts of basic college mathematics. Includes topics in college algebra, trigonometry, statistics and analytic geometry.

Mathematics 213, College Algebra: The fundamental operations of algebra, linear and quadratic equations, simultaneous equations, inequalities, progressions, mathematical induction, the binomial theorem and logarithms.

Mathematics 223, Trigonometry: Definition of trigonometric functions, solutions of right and oblique triangles, identities, inverse functions and solutions of trigonometric equations.

Exit Requirements

Each teacher makes and administers his own examinations and tests. Also grades and grading standards are the responsibility of the individual teacher. At the beginning of the year, the teachers of freshman mathematics discuss aims and goals of the freshman courses. Requirement of passing is satisfied by a grade of A, B, C, or D.

Incarnate Word College

San Antonio

Entrance Procedures

General requirements for admission to Incarnate Word College are set forth in the College Bulletin, which may be obtained from the registrar.

Students are admitted to the freshman class by examination or by diploma. Admission by diploma is granted to graduates of accredited high schools. Such graduates must have completed two units of high school mathematics.

A student may enter with a condition in any one subject except English, provided she has a total of 15 acceptable units. All admission conditions must be removed before the end of the sophomore year.

Qualified high school students may obtain college credit in subjects in which they have made satisfactory scores on the College Entrance Examination Board (CEEB) Advanced Placement Examinations.

General Organization

Baccalaureate degrees in Arts, Music, and Science are offered.

Requirements in Mathematics for Various Degrees (1965-66)

Degree	Mathematics Requirement Courses	Semester Hours
Non-Mathematics Majors		
B. A.	Math 2a - College algebra and	3
	Math 2b - Selected topics in mathematics / or	3
	Math 3 - Trigonometry	
B. A. (for prospective elementary teachers)	Math 1 - Fundamental concepts of mathematics	3
B. S. Home Economics	Math 1 - Fundamental concepts of mathematics	3
B. S. Medical Services	Math 2a - College Algebra and	3
	Math 2b - Selected topics in mathematics / or	3
	Math 3 - Trigonometry	
B. S. Physical and Health Education	Math 1 - Fundamental concepts of mathematics and	3
	Math 2b - Selected topics in mathematics / or	3
	Math 3 - Trigonometry	
	or	
	Math 2a and either Math 2b or Math.3	

Degree	Math Requirement Courses
Mathematics Majors B. A.	30 semester hours including 18 advanced hours. (For mathematics minor: 12 semester hours including 6 advanced hours.)
B. A. and Provisional Certificate for teaching in elementary schools	24 semester hours including 12 advanced hours.
B. A. and Provisional Certificate for teaching in secondary schools	24 semester hours including 12 advanced hours in mathematics and 24 semester hours including 12 advanced hours in a second academic field.

Superior students who have completed accelerated courses in high school, including modern algebra, trigonometry, and analysis may take calculus in the freshman year.

Course Content

Mathematics 1, Fundamental Concepts of Mathematics: A study of the fundamental operations and the logical development of mathematical ideas, introduction to sets and relations, the number systems of arithmetic.

Mathematics 2a, College Algebra: Mathematical systems, introduction to sets and numbers, the algebra of numbers, algebraic expressions and functions, study of graphs, complex numbers.

Mathematics 2b, Selected Topics in Mathematics: Vectors and matrices, inequalities, exponential and logarithmic functions, trigonometric functions, topics in analytic geometry. Prerequisite: Mathematics 1 or Mathematics 2a.

Mathematics 3, Trigonometry: Vectors, complex numbers, trigonometric ratios, functions and graphs, solving triangles.

Mathematics 4, Analytic Geometry: The point and plane vectors, the straight line, the circle, conics, polar coordinates, transcendental and other curves, analytic geometry of space. Prerequisite: Mathematics 3.

Exit Requirements

To complete the mathematics courses satisfactorily, a student must do all assignments in an acceptable manner, obtain a passing average for all tests given during the course, and make a passing grade on the final examination. A student who fails a mathematics course may repeat it. The final examinations for the freshmen courses are departmental examinations.

Jarvis Christian College

Hawkins

Entrance Procedures

To be admitted to Jarvis Christian College, a student must be a graduate of an accredited high school and must have completed at least one unit of mathematics. Placement of the student in freshman mathematics courses is based upon the scores on the American College Test (ACT)

Advanced placement will be allowed and is based upon the scores of the ACT, high school grades, and personal opinion of the major advisor. Much emphasis is placed on the ACT scores. Any entering student whose scores fall below the 25th percentile based on the national norm is required to take remedial courses, Mathematics 013 and Mathematics 023, Fundamentals of Mathematics.

A student who offers two units of high school algebra, one unit of geometry, and one unit of trigonometry and whose score on the entrance examination is above the 75th percentile based on the national norm may enroll in Mathematics 163, Trigonometry, or Mathematics 183, Differential Geometry and be exempted from Mathematics 133, College Algebra and/or Mathematics 163. No credit is given unless the course is taken.

There is no summer session in this school.

General Organization

Jarvis Christian College is a four-year college with a program in liberal arts and teacher education. The following degrees are conferred:

Baccalaureate degrees in Arts with a major in art, business administration, English, economics, history, mathematics, religion, secretarial science or social science.

Baccalaureate degrees in Science with a major in biology or chemistry or in education with a major in art education, biology (teaching), business education, elementary education, history (teaching), integrated science, integrated social science, mathematics (teaching) or music education.

Students seeking baccalaureate degrees in Arts with teaching in English have the option of six hours in mathematics or six hours in a foreign language. Among all other non-mathematics majors, six hours of mathematics which include Mathematics 133, College Algebra and Mathematics 163, Trigonometry, is required. The requirements for mathematics majors are 24 semester hours above freshman rank. For mathematics minors, 18 semester hours above freshman rank are required. Some specific advanced courses for mathematics majors and minors are compulsory.

Course Content

M. 013, Fundamentals of Mathematics: Fundamental operations using real numbers, common fractions, decimal fractions, percentage, metric system, plane and solid geometry. This course cannot be counted as credit toward graduation.

M. 023, Fundamentals of Mathematics: Theory of exponents and radicals, scienctific notations, logarithms, set theory and language, simple and fractional equations, graphs, special products and factoring. This course cannot be counted as credit toward graduation.

M. 133, College Algebra: Set theory, quadratic equations, theory of exponents and radicals, inequalities, systems of equations, determinants, binomial theorem, graphs, mathematics induction. Credit: Three semester hours.

M. 163, Trigonometry: Logarithms, law of logarithms, plane trigonometry, trigonometric functions of an acute angle and applications, trigonometric functions of a general angle, trigonometric identities, addition formulas, double-angle formulas, half-angle formulas, sum of product and product of sum formulas, trigonometric equations, oblique triangles, inverse trigonometric equations, radian measure. Credit: Three semester hours.

M. 183, Differential Geometry: Prerequisite: M. 133 and M. 163. Graphical representation of the point, straight line, conic sections, tangents, normals, diameters in Cartesian coordinates, the general equation of the second degree, polar coordinates, higher plane curves, parametric equations. Credit: Three semester hours.

Exit Requirements

The exit requirements are based on successful completion of assignments and all examinations. The instructor's judgment is usually the deciding factor.

Kilgore College

Kilgore

Entrance Procedures

For admission to Kilgore College a student is required to be a graduate of an accredited high school. Among stated high school requirements are two units of high school mathematics.

At Kilgore College the scores on the American College Test (ACT) or on the College Entrance Examination Board (CEEB) plus the record of high school work will be used by the counselors in placing the student in the mathematics course most suited to his background and ability.

Freshmen who are admitted during the summer session must fulfill the requirements of the regular session.

General Organization

Counselors chart a student's mathematics schedule according to: (1) college major and degree plan, and (2) the senior college to which he plans to transfer.

A remedial course, Mathematics 121, Intermediate Algebra, is used to qualify unprepared students for college algebra. College algebra is taught separately for liberal arts and for engineering students.

Course Content

Mathematics 121, Intermediate Algebra: This terminal course is designed for those students who do not have credit in high school Algebra II. Topics are the fundamental operations, fractions, exponents and radicals, rectangular coordinates and graphs, special products and factoring, quadratics and ratio.

Mathematics 131, College Algebra, (liberal arts): Prerequisite: Algebra II or Mathematics 121. Topics include sets and numbers, logic, fundamental operations, inequalities, absolute value, coordinates, linear and quadratic functions, determinants, matrices, permutations and combinations, induction, exponential and logarithmic functions, complex numbers, special products and factoring, exponents and radicals, and theory of equations.

Mathematics 133, College Algebra (engineering): Prerequisite: Algebra II. Topics are the same as those listed for Mathematics 131.

Mathematics 132, Plane Trigonometry (liberal arts): Trigonometric functions of general and acute angles, reduction formulas, logarithms, solution of triangles, graphs, functions of two angles, inverse trigonometric functions, trigonometric equations and complex numbers.

Course Content

M. 013, Fundamentals of Mathematics: Fundamental operations using real numbers, common fractions, decimal fractions, percentage, metric system, plane and solid geometry. This course cannot be counted as credit toward graduation.

M. 023, Fundamentals of Mathematics: Theory of exponents and radicals, scienctific notations, logarithms, set theory and language, simple and fractional equations, graphs, special products and factoring. This course cannot be counted as credit toward graduation.

M. 133, College Algebra: Set theory, quadratic equations, theory of exponents and radicals, inequalities, systems of equations, determinants, binomial theorem, graphs, mathematics induction. Credit: Three semester hours.

M. 163, Trigonometry: Logarithms, law of logarithms, plane trigonometry, trigonometric functions of an acute angle and applications, trigonometric functions of a general angle, trigonometric identities, addition formulas, double-angle formulas, half-angle formulas, sum of product and product of sum formulas, trigonometric equations, oblique triangles, inverse trigonometric equations, radian measure. Credit: Three semester hours.

M. 183, Differential Geometry: Prerequisite: M. 133 and M. 163. Graphical representation of the point, straight line, conic sections, tangents, normals, diameters in Cartesian coordinates, the general equation of the second degree, polar coordinates, higher plane curves, parametric equations. Credit: Three semester hours.

Exit Requirements

The exit requirements are based on successful completion of assignments and all examinations. The instructor's judgment is usually the deciding factor.

Mathematics 135, Plane Trigonometry (engineering): Topics are the same as those listed for Mathematics 132.

Mathematics 136, Analytic Geometry: Topics covered are Cartesian coordinates, curve and equation, straight line, circle, parabola, ellipse, hyperbola, transforming coordinates, tangents, polar coordinates, transcendental curves, parametric equations, functions, graphs, Cartesian coordinates in space, and the plane and straight line in space.

Exit Requirements

The number of examinations is determined by the individual instructor. All give a mid-semester and a final examination. A grade is issued at mid-semester and at the end of the semester. Grading and examinations are primarily the decision of the instructor, but are in line with a course outline provided by the department chairman. A passing grade is required for exit.

Lamar State College of Technology

Beaumont

Entrance Procedures

For admission Lamar State College of Technology requires that a graduate of an accredited high school must have completed at least two units of high school mathematics. As a special requirement, the school of engineering requires two units of algebra, one unit of geometry, and 1/2 unit of trigonometry.

All entering freshmen are required to take the Scholastic Aptitude Test (SAT) and may take the Level I acheivement test for advanced placement in mathematics.

Freshmen are admitted during the summer session with admission procedures being the same as those of the regular session insofar as mathematics requirements are concerned. However, students who do not meet the entrance requirement of 700 on the Scholastic Aptitude Test for regular admission may be allowed to take 12 semester hours of work during the summer session. They must obtain a C average on this work in order to enter in the fall semester.

General Organization

All degrees at Lamar State College of Technology require at least six semester hours of mathematics. The baccalaureate degree in Science in elementary education requires nine semester hours in mathematics. In most departments, the six-hour requirements may be met by taking any six hours of freshman mathematics. For a degree in elementary education, it is required that the student take Mathematics 135, 136, and 137 as these have been instituted in accordance with the recommendations of the Committee on the Undergraduate Program in Mathematics (CUPM).

Course Content

Mathematics 131 and 132, Finite Mathematics: Designed primarily for students majoring in the humanities or in business. Topics covered include number bases, coordinate geometry, symbolic logic, theory of sets, probability and statistics, theory of games, mathematical induction, and group theory.

Mathematics 133, Plane Trigonometry: Covers trigonometric functions, their applications, trigonometric identities and equations.

Mathematics 134, College Algebra: Topics covered include determinants, binomial theorem, theory of equations, progressions, permutations, combinations and probability.

Mathematics 135, 136, and 137, Contemporary Mathematics: These courses are designed exclusively for elementary education majors along the lines recommended by CUPM. Topics covered are a development of the number system to include the real number system, number theory, elementary algebraic theory, and elementary geometry. All courses stress the modern approach now being used in the public school systems.

Mathematics 138, Analysis I: Topics covered are functions and graphs, analytic geometry of the line, properties of limits, derivatives of algebraic functions and applications, and elementary integration.

Mathematics 139, Analysis II: Topics covered are transcendental functions and methods of integration.

Exit Requirements

A minimum of three examinations are given each semester in each freshman mathematics course. Additional examinations may be given at the option of the individual instructor. Final examinations are not departmentalized, but a departmental syllabus is used in each course.

Laredo Junior College

Laredo

Entrance Procedures

Graduation from an accredited high school is required for entrance to Laredo Junior College. High school graduation requires two years of mathematics chosen from general mathematics, related mathematics, consumer mathematics, algebra, plane geometry, or trigonometry.

All entering freshmen are given the American College Test (ACT). These scores plus the record of high school work are used by the counselor and dean to advise the student.

The admission procedures for freshmen entering during the summer session are the same as during the regular session.

Transfer students from other accredited colleges who are entitled to honorable dismissal may be accepted for admission to Laredo Junior College upon receipt of a complete transcript of all college and high school work taken.

All courses except Mathematics 331, College Algebra, offered by the department carry college credit in mathematics. Mathematics 331, which is intermediate algebra, may be counted as an elective credit.

General Organization

Laredo Junior College offers the associate degree in Arts for which the student's major determines the number of mathematics courses.

For students with less than two units of high school algebra, Mathematics 331 is offered. Students who intend to major in mathematics or science as well as those planning on an engineering degree will take the following sequence: Mathematics 301, College Algebra, 302, Trigonometry, 303, Analytic Geometry, 361, 362, Calculus, and 363, Differential Equations. This is a sequential series and the preceding courses are prerequisites for those that follow.

For elementary education majors we offer Mathematics 321.

Students planning on a baccalaureate degree in Business Administration take Mathematics 307, Business Mathematics; Mathematics 301 is a prerequisite.

Mathematics 363, Differential Equations, and Mathematics 364, Calculus with Applications, are offered when we have ten students who desire the course.

Mathematics 207, Mechanical Drawing, and Mathematics 208, Descriptive Geometry, are offered for students who plan to major in engineering; the first has no prerequisite, but it is a prerequisite for the second.

The department chairman holds departmental meetings to secure uniformity of instruction in courses in which several sections are generally taught during each semester. All instructors are required to have conference hours to help students with their assignments.

Course Content

Mathematics 321, General Mathematics: Designed primarily for the elementary school teacher who will be faced with the problem of presenting the elements of arithmetic and algebra in grades 1-6. Topics covered are structure of the real number system, language necessary to the understanding of definitions, axioms, theorems and their proofs, set notation and operations, counting as a basis for the different operations and relations, decimal and percent notation, problem solving, an introduction to geometry, measurement, ratio and proportion.

Mathematics 331, College Algebra: The elementary operations, linear equations, ratio and proportion, variation, exponents and radicals, quadratic equations and applications.

Mathematics 301, College Algebra: Open to all liberal arts students seeking a degree requiring at least three hours of mathematics credit. Engineering students may take the course receiving no mathematics credit. Topics are the real number system, the algebra of sets, properties of the real numbers, functions and their graphical representation, linear and quadratic functions, determinants, polynomial functions, permutations, combinations and the binomial theorem, mathematical induction, exponential and logarithmic functions, and partial fractions. Prerequisite: Mathematics 331 or one and one-half years of high school algebra.

Mathematics 302, Trigonometry: Mastery of trigonometric functions with applications, functions of angles, identities, derivation of formulas, logarithms, solution of both right triangles and obtuse triangles, practical problems involving heights and distances, graphical representation of trigonometric functions and geometric applications. Prerequisite: Mathematics 301 and high school geometry.

Mathematics 303, Analytic Geometry: Functions and graphs, fundamental theorems and methods, linear functions, polynomial curves, rational fractional functions, transformation of coordinates,conics, other algebraic curves; trigonometric curves, exponential and logarithmic curves, parametric equations, polar coordinates, coordinates in space, surfaces and curves, planes and lines. Prerequisite: Mathematics 301 and 302.

Mathematics 307, Business Mathematics: A course for business administration students. Prerequisite: Mathematics 301.

Mathematics 361, Calculus: The study of the limit and function concepts, differentiation of algebraic and transcendental functions, maxima and minima, differentials. Prerequisite: Mathematics 303.

Mathematics 362, Calculus: Integration including algebraic and trigonometric substitutions, areas, volumes, arc length, surface in rectangular and polar coordinates. Prerequisite: Mathematics 361.

Mathematics 363, Differential Equations: Linear differential equations, undetermined coefficients, variations of parameters, equations of higher degree, power series. Prerequisite: Mathematics 362.

Mathematics 364, Calculus with Applications: Further study of the limit concept, infinite series, power series, solid analytic geometry, partial differentiation, multiple integrals. Prerequisite: Mathematics 363.

Mathematics 207, Mechanical Drawing: For students who plan to major in engineering at a senior college. Freehand lettering, care and use of instruments, geometric construction, orthographic projection, isometric and oblique cabinet drawing, sheet metal drawing, perspective drawing, revolutions, working drawings.

Mathematics 208, Descriptive Geometry: Designed for those who plan to major in engineering in a senior college. Orthographic projection; point, line and plane problems; intersections and developed surfaces; primary, secondary, successive and auxiliary views; revolution. Prerequisite: Drawing 207 and entrance credit for solid geometry.

Exit Requirements

A final test is given in each course which counts one-fourth of the course grade; the average of the two nine-weeks grades counts for three-fourths. Any course may be repeated. Every course carries three semester hours of college credit.

Lee College

Baytown

Entrance Procedures

With the exception of individually approved adult students, most of the students entering Lee College are graduates of an accredited high school with two to four years entrance credit in mathematics. The counseling department consisting of two full-time members, the division head, and the faculty of the mathematics department, counsel and direct these students into the proper mathematics courses. Advice is based upon the student's high school record and his scores on such well-known tests as the American College Test (ACT), the College Entrance Examination Board Scholastic Aptitude Test (CEEB-SAT), the School and College Ability Test (SCAT), and the American Council on Education Psychological Examination (ACE). Most of the students have had the CEEB-SAT test in high school or we give them the SCAT test. Attention is given to quantitative scores. On the first day of school in all contemporary algebra classes, the Cooperative Mathematics Pre-test for College Students is administered. Replacement of some students may be recommended on the basis of these scores.

Credit is given for modern college algebra, trigonometry, analytic geometry, and Calculus I by passing a comprehensive test similar to that given by the University of Texas, or by making a score of at least three on the CEEB.

If a student has completed at least four years of high school mathematics which includes an analysis course and in many cases an introductory high school course in analytic geometry and calculus, he may receive advanced placement in analytic geometry and Calculus I. No credit is given for advanced standing.

Our admission procedures are the same for fall, spring and summer sessions.

General Organization

The mathematics department of Lee College is organized to serve students who plan to attend senior colleges. These students usually select courses from modern college algebra, trigonometry, mathematics of investment, analytic geometry, or Calculus I, depending upon degree requirements. Certain non-transferable courses such as contemporary algebra, business mathematics and basic mathematics for technical and vocational students are available for terminal and vocational students.

Course Content

The following courses are used primarily by our technical students and by other students for remedial purposes. In general, they are non-transferable.

Mathematics 101, Slide Rule: Designed to acquaint the student with use of the slide rule, this course is recommended for engineering, science, and mathematics majors. Open to all students.

Computer Programing I: Basic concepts of computers along with a progressive study of programing. Laboratory experiences in programing drills and case studies. Actual machine language, SPS and various other business oriented languages. Programing and operating the IBM 1620.

Computer Programing II: More advanced studies in programing, including machine language, FORTRAN, advanced problems and operation of the IBM 1620. Though not designed to teach detailed mathematical calculations beyond college algebra and technical mathematics, this course will offer the student training necessary for handling either algebraic or statistical problems on a computer.

Mathematics 300, Contemporary Algebra: A programed course in sets, numbers, language of algebra, linear equations, inequalities, relations, functions, exponents, radicals and quadratic equations.

Applied Plane and Solid Geometry: Designed for drafting technology students, this course includes common geometrical constructions and mensuration of triangles, quadrilaterals, trapezoids, circles, ellipses, prisms, cylinders, pyramids, cones, frustums, spheres, ring sections, composite figures and belts.

Business Mathematics: Designed especially for those students who plan to enter business or commercial work immediately upon graduation from Lee College. Covers problems of everyday business calculations, review of the operations of arithmetic, and intensive study of percentage and common and decimal fractions.

The following are transferable courses:

Modern College Algebra: Treats algebra as a logical system using the postulation approach, sets and numbers, the algebra of numbers as a logical system, inequalities, absolute values, linear and quadratic functions polynomial functions, inverse functions, mathematical induction, exponential and logarithmic functions, permutations, combinations, and the binomial theorem.

Plane Trigonometry: Measurement of angular magnitude, trigonometric functions, solution of right and oblique triangles, theory and use of logarithms, identities, trigonometric equations.

Analytic Geometry: Rectangular coordinates with related formulas for straight lines and circles, curve tracing and loci problems, conic sections, polar coordinates, parametric equations, and a section on solid analytic geometry.

Calculus I: Functions; limits; continuity of functions; derivatives of functions with applications in rate problems; maximum and minimum; differentials: Rolle's and Mean Value theorems; integration with applications to areas, volumes, arc length, work, and liquid pressure.

In Contemporary Algebra 36 standardized tests are furnished by the authors of the textbook. These tests are administered in classroom and for homework.

Exit Requirements

The instructor determines the course grades. Grades given by department members are studied by the dean and division head and conferences are held with faculty members concerning grades if it is deemed necessary. A passing grade is required. All students are required to take a two-hour final examination which is used to further determine the final grade in the course. No limit is set on the number of times a student may repeat a course.

LeTourneau College

Longview

Entrance Procedures

For admission to LeTourneau College it is required that a graduate of an accredited high school must have completed at least two units of mathematics exclusive of general mathematics.

Tests are given to all freshmen during orientation week for placement purposes. The results of this test, scores on American College Test (ACT), and high school transcripts are used by the students' advisors in placing them in the mathematics course most suited to their ability.

Advanced placement and credit will be allowed in all mathematics courses by examination administered by the mathematics department of the college.

Freshmen are admitted during the summer session, with admission procedures being the same as those of the regular session.

General Organization

LeTourneau College offers baccalaureate degrees in Arts and Science. The baccalaureate degree in Science requires from 18 to 24 semester hours in mathematics. The baccalaureate degree in Arts requires from three to thirty semester hours in mathematics. The number of hours in each case depends upon the major field of study. There are three mathematics courses offered to freshmen: Mathematics 103, Non-Credit Algebra, Mathematics 133, College Algebra, and Mathematics 143, Trigonometry.

Course Content

Math 103, Non-Credit Algebra: This course is offered to those students who show by their test grades they are not capable of doing Mathematics 133. Factoring, fractions, exponents and radicals, systems of linear equations, graphs, and quadratic equations.

Math 133, College Algebra: A review of quadratic equations, systems of quadratic equations, ratio and proportions, progressions, binomial theorem, complex numbers, theory of equations, determinants, and partial fractions.

Math 143, Trigonometry: Trigonometric functions, solution of right and oblique triangles, graphs of trigonometric functions, identities, indirect measurement, and vector analysis.

Exit Requirements

The final course grade is determined by the instructor. In addition to homework and periodic tests, each course has a final examination. The student is required to pass the final examination to receive credit for the course. A student may repeat a course for the purpose of raising the grade, but when a course is repeated, the second grade shall stand.

Lon Morris College

Jacksonville

Entrance Procedures

General entrance requirements to Lon Morris Junior College are set forth in the catalog. This catalog can be obtained by writing the Registrar, Lon Morris Junior College, Jacksonville, Texas 75766. Two units of high school mathematics will fulfill the requirements in that subject.

Students who apply for entrance to Lon Morris Junior College must present American College Test (ACT) scores. These test scores, in addition to scores from other tests given during the testing and orientation period, will be used by the students and their faculty advisors in planning the students' schedules.

Freshmen are admitted during the summer session with procedures being essentially the same as those of the regular session.

General Organization

The mathematics department offers courses which are designed to fulfill the needs of mathematics, science, engineering, and business majors while attending the first two years of college. These courses are transferable to virtually all senior colleges and universities. The mathematics and science departments are closely related, eliminating repetition of course materials and avoiding those times when students do not have the mathematical preparation for science courses.

Course Content

Mathematics 113, College Algebra: Designed for those students majoring in business, the social sciences, or the arts. A review of elementary algebra, determinants, quadratic equations, variations, progressions, binomial theorem, probability, and logarithms. Credit: Three semester hours.

Mathematics 123, Plane Trigonometry: The study of trigonometric functions, solution of triangles, trigonometric equations and identities, inverse functions, and graphical representation of functions. A student who has not had high school trigonometry and who plans to enter Mathematics 115 must have either credit in Mathematics 123 or consent of the instructor. Credit: Three semester hours.

Mathematics 123B, Finite Mathematics: Topics from finite mathematics with business and social applications. Sets, probability, binomial distribution, exponents, linear equalities and inequalities, vectors and matrices, linear models and progressions. Prerequisite: Mathematics 113 or consent of instructor. Credit: Three semester hours.

Mathematics 131, Mathematics for Elementary Teachers: Basic concepts in elementary mathematics. Credit: Three semester hours.

The following sequence of courses is designed primarily for those students who plan to major or minor in mathematics, engineering, physics, or chemistry. Freshmen who wish to enter this sequence in the fall and who have not had high school trigonometry are strongly advised to take trigonometry during the second summer session just prior to the fall semester. Freshmen without necessary background courses in both high school algebra and trigonometry are strongly advised to take both college algebra and trigonometry during the summer before attempting to enter this sequence.

Mathematics 115, Modern Algebra and Trigonometry: Sets, logic, inequalities, absolute values, circular functions, circular function identities, inverse functions, determinants, probability, mathematical induction, and exponential and logarithmic functions. Credit: Three semester hours.

Mathematics 123A, Calculus and Analytic Geometry I: Circles, translation of coordinates, conic sections, limits, derivatives, application of derivatives, differentials, transcendental functions, and an introduction to integral calculus. Prerequisite: Mathematics 115 or consent of instructor. Credit: Three semester hours.

Exit Requirements

Approximately five examinations, including a final examination, will be given each semester in each of the courses described. The course grades are determined largely from the examination scores, but they are also influenced by homework grades, daily test grades, class participation, and class attendance. The exact amount that each of the factors influence the final grade varies with different instructors, but is completely consistent within any one class.

A course may be repeated, and the better of the two grades will be recorded on the permanent record.

Mary Hardin-Baylor College

Belton

Entrance Procedures

Mary Hardin-Baylor College requires that a graduate of an accredited high school have a minimum of two units in mathematics.

Entering students are placed in courses in mathematics according to their scores on the American College Test (ACT) and their high school record. Entering students are not placed in courses beyond calculus and no credit is given by examination or on courses below the placement level. If a student's record indicates an insufficient mathematics background, a non-credit course is required before registering for college mathematics.

General Organization

Mary Hardin-Baylor College offers baccalaureate degrees in Arts, Science and Music Education. All degrees require three semester hours of mathematics which may be satisfied by Mathematics 130, Introduction to Mathematics, Mathematics 133, Integrated Algebra and Trigonometry, or Mathematics 235, Calculus with Analytic Geometry. Although only three semester hours are required, we offer six semester hours in each of the above.

Students who take a B. S. degree in elementary education are required to take an additional three semester hours in mathematics, chosen in consultation with the department and the student's advisor.

Course Content

Mathematics 100, General Mathematics: A non-credit course for those students who are not prepared to take college mathematics.

Mathematics 130-131, Introduction to Mathematics: Foundations of mathematics, number systems, fundamental operations, basic algebra and geometry.

Mathematics 133-34, Integrated Algebra and Trigonometry: Traditional material in a modern approach.

Mathematics 235-236, Analytic Geometry and Calculus: An integrated study of the functions of one variable and plane curves, using the methods of calculus. Geometric and physical applications of the derivative and the definite integral.

Exit Requirements

The final grade in the course is the responsibility of the instructor.

The policy of repeating a course for the purpose of raising a grade is allowed under the published regulations of the college.

McMurry College

Abilene

Entrance Procedures

For admission McMurry College requires that a graduate of an accredited high school must have completed at least two units of high school mathematics.

A short mathematics examination is given to all freshmen during orientation week for placement purposes. The results of this examination, scores on the American College Test (ACT), and the record of high school work will be used by the student's advisor in placing the student in the mathematics course most suited to his background and ability. The mathematics examination is especially useful to advisors of students planning to major or minor in mathematics.

Advanced placement and credit will be allowed in all mathematics courses in which the Educational Testing Service (ETS) offers examinations. The examinations will be taken directly through the ETS during the third week in May.

Freshmen are admitted during the summer sessions, with admission procedures being the same as those of the regular session.

General Organization

Baccalaureate degrees in Arts, Science, and Business Administration are conferred by McMurry College. The baccalaureate degrees in Arts and Business Administration require the completion of six semester hours in the department of mathematics. The baccalaureate degree in Science requires the completion of at least fourteen semester hours to be chosen from mathematics, foreign language, and laboratory science. Most students who do not plan to major or minor in mathematics satisfy the minimum requirement in mathematics by taking Mathematics 136 and 137, Introduction to Mathematics. This requirement, however, can be met by obtaining credit for Mathematics 138, College Algebra, and 139, Trigonometry, and a few students with a strong background in high school mathematics elect to satisfy this requirement with Mathematics 134, Pre-calculus Mathematics, and 145, Calculus with Analytic Geometry I. Mathematics 136 and 137 may not be counted toward a major or minor in mathematics.

Course Content

Mathematics 136, 137, Introduction to Mathematics: Designed primarily for those students majoring in the arts or humanities. An introduction to logic, numeration systems, the fundamental operations of arithmetic, elementary algebra, systems of measurement, introduction to statistics, and an introduction to geometry. These courses are open to any student admitted to McMurry College.

Mathematics 138, College Algebra: The basic principles of algebra are discussed from a modern point of view. Sets, factoring, solution of equations, graphical analysis, the binomial theorem, determinants, mathematical induction, and complex numbers.

Mathematics 139, Trigonometry: The trigonometric functions, solution of right and oblique triangles, trigonometric identities and equations, and graphs of the trigonometric functions. Prerequisite: High school trigonometry or Mathematics 139.

Mathematics 134, Pre-calculus Mathematics: Similar in content to a combination of Mathematics 138 and Mathematics 139, but omits or covers more quickly the more elementary topics in these courses. An accelerated course designed for the student who has a good background in high school mathematics, but who needs a more thorough treatment of algebra and trigonometry before entering the analytic geometry and calculus sequence. Prerequisite: Two units of high school algebra, one unit of geometry, and one-half unit of trigonometry.

Mathematics 145, Calculus with Analytic Geometry I: An introduction to analytic geometry, elementary properties of functions, limits, continuity, differential calculus, and a brief introduction to integral calculus. Prerequisite: Mathematics 138 and 139 or Mathematics 134 or advanced placement.

Exit Requirements

Approximately six examinations will be given each semester in Introduction to Mathematics. Two of these, a mid-semester and a final examination, are departmental examinations.

Approximately five examinations, including a final examination, are given in each of the other courses described in the preceding section. These examinations are not departmentalized. Although grading procedures are left to the individual instructor, the final grades are influenced by a course outline provided by the department chairman.

A course may be repeated for the purpose of raising a grade. When this repetition is made, the second grade shall stand as the permanent record whether or not it is an improvement over the first grade received in the course.

Midwestern University

Wichita Falls

Entrance Procedures

Midwestern University requires two units of high school mathematics, selected from algebra, geometry, and trigonometry for admission. High school units in business mathematics will not satisfy this requirement, and two units in related mathematics will be accepted as only one unit of algebra. All entering freshmen take the American College Test (ACT). Advanced placement examinations in algebra, trigonometry, analytic geometry and calculus are offered during each regular orientation period for entering freshmen. These examinations are also given in early May, at which time high school seniors may take the examinations. The materials used are the Cooperative Mathematics Tests of the Educational Testing Service (ETS).

On the basis of test scores, applicants may be recommended for as much as six hours of advanced placement credit, subject to validation by making a grade of B or better in a subsequent course, designated by the department of mathematics. One freshman honors course in mathematics is offered each year. Summer session procedures are essentially the same.

General Organization

Midwestern University confers the baccalaureate degree in Arts with a three semester hour requirement in mathematics. Finite Mathematics I is recommended for this purpose. A degree in business administration requires six semester hours in Finite Mathematics I and Finite Mathematics II. The baccalaureate degree in Science requires six semester hours in mathematics. College algebra and trigonometry are recommended. A degree in elementary education requires three semester hours in Structure of the Number System I.

Course Content

Mathematics 1033 and 1043, Structure of the Number System I and II: For students majoring in elementary education. The language of mathematics, sets, relations, the counting numbers, division and rational numbers, decimal representation, the real number system, number bases, subtraction and the integers, elementary theory of numbers, algebraic structures, geometry and measurement of geometric sets.

Mathematics 1203 and 1213, Finite Mathematics I and II: Designed for students majoring in the division of business administration, humanities, and social sciences. Sets, counting-permutations, combinations, probability, relations and functions, inequalities and linear programing, linear equations, matrices, determinants, quadratic, exponential and logarithmic graphs, sequences, limits and summation, matrices, vector spaces, linear dependence and bases, rank and the general solution of linear equations.

Mathematics 1233, College Algebra: Foundations of mathematics, structure of the number system, functions, relations and equations, linear algebra and combinatorial analysis.

Mathematics 1433, Plane Trigonometry: Trigonometric functions, identities and equations, logarithms and complex numbers.

Mathematics 1533, Analytic Geometry: Cartesian coordinates, conic sections, transformation of coordinates, polar coordinates, and parametric equations.

Exit Requirements

The exact determination of course grades is made by the individual class instructor. A passing grade is required. The course grade is dependent on class participation, homework, short quizzes, hour examinations and a final examination.

Departmental examinations will be utilized in Finite Mathematics I and II. A student may repeat any course in which he has made grades of D or F. Upon satisfactory repetition, only the last registration is computed in the grade point average.

North Texas State University
Denton

Entrance Procedures

General entrance requirements to North Texas State University are established in the General Regulations of the University. This catalog, as well as those for specific colleges and schools, is available from the Registrar, North Texas State University, Denton, Texas 76203.

The general requirements in mathematics which are also required for entrance to the university are established by the following procedures:

- All beginning freshmen are required to present satisfactory scores on the American College Testing Program (ACT) or the College Entrance Examination Board (CEEB).
- The school of business administration and the department of industrial arts, secondary education with a teaching field in mathematics or science and elementary education in the school of education recommend two full years of high school algebra and one full year of geometry.
- The departments of mathematics, physics, chemistry and biology in the college of arts and sciences recommend that the prospective majors take a minimum of four years of mathematics in high school including trigonometry.

During the orientation period at the beginning of the semester, the mathematics staff advises freshman and transfer students as to the most appropriate first course in college mathematics. Placement of these students is made on the basis of their high school backgrounds and their scores on the ACT or CEEB.

Advanced standing (without credit) in college algebra, trigonometry, analytic geometry, differential calculus, and integral calculus may be obtained through an appropriate score on tests administered by the staff of the department of mathematics. Tests for advanced standing (with credit) must be taken within the first semester of college residence.

Students are encouraged to enter in the summer session, as those entering the various branches of science may accelerate their growth in mathematics.

Course Content

The freshman mathematics program provides for entrance at several different levels of competence in mathematics. The following courses are considered as freshman courses:

Mathematics 110, College Algebra: Quadratic equations, systems involving quadratics, variation, ratio and proportion, progressions, the binomial theorem, inequalities, complex numbers, theory of equations, partial fractions, determinants. Prerequisite: Two years of high school algebra or consent of director of department.

Mathematics 120, Trigonometry: Trigonometric functions, logarithms, trigonometric identities and equations, inverse trigonometric functions and complex numbers. This course will not be allowed as a part of the number of hours to satisfy the requirements for the baccalaureate degree in Arts or Science.

Mathematics 145, Fundamental Mathematics for Business Students: For all students of the school of business. Topics covered consist of those of Mathematics 110. Prerequisites are the same.

Mathematics 165, Analytic Geometry: A study of lines, circles, conic sections, transformations of coordinates, polar coordinates, tangents and normals, parametric equations. Prerequisites: Trigonometry and Mathematics 110 or Mathematics 110 taken concurrently.

North Texas State University does not offer remedial or non-credit courses in mathematics. The following accelerated courses are offered within the department for those students with scores that rank within the upper one-fourth of scores on the CEEB or the ACT:

Mathematics 161, 162, Introductory College Mathematics: The material normally introduced in college algebra, trigonometry, and analytic geometry.

Mathematics 165, 271, Analytic Geometry and Introduction to Differential Calculus.

Exit Requirements

The requirements for successful completion of a course is to maintain an average of 60 or above. Uniformity of standards is established by providing each instructor of freshman mathematics a course outline for Mathematics 110, 120, and 145. Five tests and the final examination are given in each of these courses. The content of other courses is left to the discretion of the instructor. Students who unsuccessfully complete a course are allowed to repeat, provided they have satisfied the requirements of the college for admission.

Odessa College

Odessa

Entrance Procedures

For admission, Odessa College requires that a graduate of an accredited high school must have completed at least two units of high school mathematics.

An algebra examination is given to all freshmen that plan to take mathematics at Odessa College. The results are used to determine whether students are to take general mathematics, college algebra, or college algebra for engineers. Students making a high score on this examination may take a cooperative plane trigonometry test, and if they make a score in the upper quartile they may take analytic geometry and calculus.

If students do not make a high score on the algebra examination or a score in the upper quartile on the trigonometry test, they may take an advanced standing examination in college algebra and plane trigonometry in order to determine whether they should take these courses. No credit is given to to students who pass the advanced standing examinations.

General Organization

Students majoring in mathematics or engineering are expected to take Mathematics 133, Analytic Geometry, Mathematics 231, Calculus I, Mathematics 232, Calculus II, Mathematics 234, Calculus III, Math 235, Differential Equations, and the remainder of their mathematics courses at a senior college.

Most students that do not plan to major or minor in mathematics take Mathematics 131, College Algebra, and Mathematics 132, Plane Trigonometry. Students majoring in business administration take Mathematics 132B, Elementary Mathematics of Finance, instead of Mathematics 132.

Course Content

Math 131, College Algebra: Credit: Three hours. Review of elementary topics in college algebra, progressions, the binomial theorem and mathematical induction, theory of equations, complex numbers, probability, determinants. Prerequisite: Satisfactory mathematics placement test score.

Math 131B, College Algebra, Business: Credit: Three hours. For students in business administration and in the non-technical fields. Review of fundamental operations of algebra, linear equations, exponents, radicals, logarithms, quadratics, ratio, proportion, variation, binomial theorem, progressions, simple and compound interest, probability and inequalities.

Math 132B, Elementary Mathematics of Finance: Credit: Three hours. Cash sales, customer and payroll records, aliquot parts, percentage, simple interest, bank discount and partial payments, compound interest, annuities, insurance, stocks and bonds, graphs. Prerequisite: Math 131B.

Math 132, Plane Trigonometry: Credit: Three hours. A study of trigonometric functions, formulas, applications of variations of functions with changes in angles, trigonometric equations, identities, solutions of right and oblique triangles, inverse functions. Prerequisites: Math 131 or 134, or taken concurrently.

Math 133, Analytic Geometry: Credit: Three hours. Curves and equations, straight line, circle, parabola, ellipse, hyperbola, rotation of axis, higher plane curves, parametric equations, polar coordinates. Prerequisite: Math 132 and 134, or Math 132 and 131 with concurrent registration for Math 134.

Math 134, College Algebra for Engineers: Credit: Three hours. Sets and numbers, the algebra of numbers as a logical system, inequalities, absolute values, coordinate systems, functions and their graphical representation, linear and quadratic functions, determinants, polynomial functions, inverse functions, permutations, combinations, binomial theorem, mathematical induction, exponential and logarithmic functions, complex numbers and partial fractions. Prerequisite: One and one-half or two units of high school algebra and a satisfactory mathematics placement test score.

Math 135, General Mathematics: Credit: Three hours. A review of arithmetic, a review of elementary algebra, and computational trigonometry.

Math 136, Finite Mathematics: Credit: Three hours. Symbolic logic, theory of sets, probability and statistics, theory of games, mathematical induction, and group theory.

Math 151, Analytic Geometry and Calculus: Credit: Five hours. Equation of a locus, locus of an equation, lines, circles, other conic sections, functions, limits, derivatives of polynomials and other algebraic functions, applications of differentiation, integration of polynomials, areas and volumes by integration.

Math 231, Calculus: Credit: Three hours. Differential calculus, derivation of formulas, applications of derivatives, integration of algebraic forms, evaluating areas and volumes, and the derivation and application of formulas. Prerequisite: Math 133.

Math 232, Calculus: Credit: Three hours. The topics of Math 231 are extended. Moments of inertia, series, partial differentiation, and multiple integration. Prerequisite: Math 231.

Exit Requirements

Approximately six tests are given in each class each semester, and this counts as one-third of the semester grade. Daily papers and daily tests count as one-third and the final examination as one-third of the semester grade. A passing grade is required.

Our Lady of the Lake College
San Antonio

Entrance Procedures

Basic requirements for admission to the freshman class are listed in the college catalog obtainable from Director of Admissions, Our Lady of the Lake College, 411 S. W. 24th Street, San Antonio, Texas 78207.

Prerequisite for any freshman mathematics class other than business mathematics is the satisfactory completion of three units of high school mathematics usually two units in algebra and one in geometry. Not acceptable as prerequisites are consumer mathematics, related mathematics, general mathematics or arithmetic. Students who have completed less than the three required units are sometimes admitted conditionally. The deficiency may be removed by satisfactory completion of six semester hours in a college course involving subject matter in which the deficiency exists.

Freshmen are occasionally allowed to register for summer sessions, but they are not encouraged to do so.

In choosing the course or section she would like to enter, a freshman is guided by the record of her performance on the college aptitude test given by College Entrance Examination Board (CEEB), by the placement test given to all freshmen prior to registration in September, by high school course grades, by requirements of major and minor, and by personal preferences.

Placement in advanced courses allows an able student to omit certain preliminary courses. Although no credit toward graduation is given for any omitted course, students who begin college mathematics at a higher-than-average level are able to obtain a correspondingly higher-level sequence of courses during the usual three or four years of college.

General Organization

In 1964-66 all B. A. degree programs, also the B. S. in medical technology, require six hours of mathematics. The B. S. for business administration and economics and the B. S. for home economics require three hours of business mathematics. The baccalaureate degrees in Music and Music Education do not require any mathematics.

The requirement of six hours of mathematics may be satisfied by any two of Mathematics 101, 102, 104, 105, 110, 117, or by Mathematics 119. In certain cases, six hours of Latin or Greek or philosophy beyond required hours may be substituted for the six hours of mathematics.

For a major in mathematics leading to a B. A. degree there is required 24 semester hours above freshman rank of which at least twelve are to be advanced. Students with a major in mathematics may elect as their minor 12 hours above freshman rank from any bachelor degree program in the college curriculum. Twenty-four semester hours of mathematics of which 12 must be advanced are required of prospective teachers of mathematics in secondary schools. Eighteen hours of which nine must be advanced are required of prospective teachers in elementary schools.

Course Content

Math 102, Modern Mathematics: Algebra, the real number system, basic axioms, sets, inequalities, absolute value, functions, logarithms, complex numbers, theory of equations.

Math 104, Analytic Geometry: Part 1 with selected topics from Part 3 of the School Mathematics Study Group text.

Math 105, Analytic Geometry: Part 2 with selected topics from Part 3 of the School Mathematics Study Group text.

Math 106, Business Mathematics: A study of fundamental problems and processes of business mathematics.

Math 110, Structure of the Real Number System: Natural, signed, rational, and irrational numbers; logic; sets; numeration systems; elementary number theory; linear equations and linear inequalities in one variable.

Math 117, Elementary Statistics: Summarization of data, probability, normal and binomial distributions, sampling and sampling distributions, statistical estimation, testing hypotheses.

Math 119, Differential and Integral Calculus: Sets and relations, functions and their inverses, limits and continuity, derivatives with applications, indefinite integration and applications.

Exit Requirements

Examinations are held in the middle of a semester and at its conclusion. Instructors may schedule other examinations at their discretion. Homework is regularly assigned, required, and graded. Grading is left to the instructor.

Pan American College
Edinburg

Entrance Procedures

For admission Pan American College requires that a graduate of an accredited high school must have completed at least two units of mathematics in high school. The scores on the American College Test (ACT) and a record of high school work is used by the student's advisor in placing the student in the proper mathematics course. Advanced standing (with credit) may be obtained by presenting a suitable score on a College Entrance Examination Board (CEEB) Advanced Standing Examination to the registrar. Where this is not done, a student may petition his division director for permission to take a locally prepared examination. The advanced standing test must be taken before or upon registration. Freshmen are admitted during the summer session with admission procedures the same as those of the regular session.

General Organization

All graduates of Pan American College are required to take a minimum of 48 semester hours of general, liberal education; six semester hours of mathematics is required as part of this general education requirement. Mathematics 1301, 1302, Mathematics in General Education, are available for elementary education majors and liberal arts majors. Science majors may take Mathematics 1304, 1305, College Algebra and Trigonometry. Business administration majors may take Mathematics 1304, 2303, College Algebra and Mathematics of Finance. Science and business administration majors who had only one year of algebra in high school are required to take Mathematics 1303, Algebra, as a prerequisite for Mathematics 1304, College Algebra. Mathematics 1303 gives the student three hours of elective credit but does not count toward the six semester hours of mathematics required for a degree.

Students with four credits of high school mathematics are advised to start with Mathematics 1601, Analytic Geometry and Calculus.

Mathematics 1301, 1302, and 1303 cannot be counted toward a major or a minor in mathematics. Mathematics majors and minors and students majoring in physics or chemistry are required to take mathematics beyond freshman mathematics.

Course Content

Math 1301, 1302, Mathematics in General Education: An introductory course for non-science and non-mathematics majors. An axiomatic approach to the algebra of numbers, sets, exponents, equations, logarithms, functions, relations, graphs, variation, simple statistical methods and probability.

Math 1303, Algebra: Factoring, fractions, linear equations in one unknown, graphs and functions, systems of linear equations, exponents and radicals.

Math 1304, College Algebra: Quadratic equations, ratio, proportion, variation, complex numbers, mathematical induction, binomial theorem, the higher degree equation, progressions, determinants and partial fractions.

Math 1305, Trigonometry: A study of the solution of right and oblique triangles, functions of any angle, functions of multiple angles, radian measure, inverse functions, identities and the solution of trigonometric equations.

Math 1601, Analytic Geometry and Calculus: Equation of a locus, locus of an equation, the straight line, circle, parabola, ellipse, hyperbola, variables, functions, limits, derivatives and differentials for polynomials and applications, integration of polynomials and applications, differentiation of algebraic functions.

Exit Requirements

The course grade is determined by the instructor. In addition to homework, each course has approximately five tests during the semester and a final examination at the end. Although a grade of D is passing and gives the student credit in his math courses, those students not having a C average in their mathematics courses are required to pass a Mathematics Proficiency Test before they are awarded a degree. This test covers only material normally covered in the freshman mathematics courses.

A course may be repeated for the purpose of raising a grade. While all grades are recorded, no matter how many times a course is repeated, the last grade is the only one counted on the student's permanent record.

Panola College
Carthage

Entrance Procedures

For admission Panola College requires that a graduate of an accredited high school must have completed at least two units of high school mathematics.

All entering freshmen are administered the American College Test (ACT) during orientation if it or the College Entrance Examination Board (CEEB) has not been previously taken. Scores on the ACT or CEEB and the record of high school work will be used by the mathematics department advisors in placing the student in the courses most suited to his background and ability.

Advanced placement (without credit) past college algebra and/or trigonometry may be obtained by students (especially those majoring in mathematics, science, or engineering) recording above average scores on the mathematics section of the ACT and scores of the same description in high school.

Presently no summer session is taught, but the admission procedures will be the same as those of the regular session when it resumes.

General Organization

Associate degrees in Arts and Science, Certificate of Graduation, and Business Secretarial Certificate are conferred by Panola College. The mathematics requirements of each are six, nine, three and six, respectively. Most students not majoring or minoring in mathematics, science or engineering will satisfy the requirements by taking Mathematics 300, College Algebra, Mathematics 303 and 304, Business Mathematics, or Mathematics 306, Modern Mathematics for Elementary Teachers. The mathematics requirements can be met by taking Mathematics 301, College Algebra for Engineers, and Mathematics 302, Trigonometry, and a few students with strong high school backgrounds may elect to take Mathematics 305, Analytic Geometry.

Course Content

Mathematics 300, College Algebra: Sets, factoring, equation solution, mathematical induction, binomial theorem, complex numbers and determinants.

Mathematics 301, College Algebra: A more intensive study of the theoretical aspects of algebra is undertaken in this course, designed primarily for mathematics majors and engineers. Only one course in college algebra may be counted.

Mathematics 302, Trigonometry: Functions, identities, solutions of triangles, complex numbers and inverse functions.

Mathematics 303, 304, Business Mathematics: Mathematics of interest, discounts, stocks, bonds and other topics related to finance, commerce or accounting. Open to all students, this course is recommended for business majors.

Mathematics 305, Analytic Geometry: Topics in analytic geometry. Open to students with credit or advanced placement in algebra and trigonometry.

Mathematics 306, Modern Mathematics for Elementary Teachers: Designed for elementary education majors.

Exit Requirements

The exact course grade is determined by the instructor. A passing grade is required. In addition to homework, several tests are given each semester including a nine-weeks test and a comprehensive final examination of three hours duration. No limit is set on the number of times a student may repeat a course except for the general conditions established for a student to continue in school.

Paris Junior College

Paris

Entrance Procedures

Admission to Paris Junior College has no special mathematics requirements. A short mathematics test will be given to all freshmen in 1966.

General Organization

College algebra is taken by most students to satisfy graduation requirements. Students majoring in the sciences take trigonometry.

Course Content

Mathematics 300, Intermediate Algebra: Fundamental operations, factoring, linear equations in two or three unknowns, graphs, exponents, radicals, quadratic equations, equations in the quadratic form, systems of equations involving quadratics. Not considered college mathematics; carries no credit.

Mathematics 301, Plane Trigonometry: Functions of angles, logarithms, solution of right triangles, problems of heights and distances, derivations of formulae, solution of oblique triangles, graphical representation of trigonometric functions, identities and inverse trigonometric functions.

Mathematics 302, College Algebra: A rapid review of elementary topics followed by the study of quadratic equations, determinants, binomial theorem, variation, progressions, complex numbers, theory of equations, permutations, combinations and probability. Prerequisite: Mathematics 300 or two years of high school algebra.

Mathematics 313, Mathematics of Finance: A study of elementary statistics, interest, insurance, annuities , logarithms, stocks, bonds and progressions. Prerequisite: Mathematics 300 or equivalent.

Paul Quinn College

Waco

Entrance Procedures

The student must have completed two units of high school mathematics to be eligible for admission to the Paul Quinn College.

General Organization

All students are required to take Mathematics 101 and Mathematics 102 in their freshman year.

Course Content

Mathematics 101, 102, Basic Mathematics: These courses cover fundamental mathematics with emphasis on algebraic operations, linear and quadratic equations.

Exit Requirements

The students must show evidence of skill in the algebraic operations to complete the course with credit. A passing grade is required. The courses can be repeated.

Prairie View Agricultural and Mechanical College

Prairie View

Entrance Procedures

General entrance requirements to Prairie View A & M College are set forth in the General Information catalog of the college. This catalog is available in the Office of the Registrar, Prairie View A & M College, Prairie View, Texas 77445. Some of the most important entrance requirements are stated below.

For admission Prairie View A & M College requires that a graduate of an accredited high school must have completed at least two units of high school mathematics.

An examination constructed by the mathematics department is administered to prospective engineers, scientists, and mathematicians. The results of this examination, scores on the American College Test (ACT), and the record of high school work will be used by the student's advisor in placing the student in the mathematics course most suited to his background, ability, and interest. Advanced standing examinations are available in all freshman mathematics courses.

Freshmen are admitted during the summer session, with admission procedures being the same as those of the regular session.

General Organization

The following table details the general mathematics requirements of students within Prairie View Agricultural and Mechanical College.

Requirements of Mathematics for Various Degrees (1965-66)

Department	Degree	Math Requirement in semester hours	Comments
(School of Arts and Sciences)			
Economics History English Music Social Science Political Science Physical Education Business Education	B. A.	6	Any 6 hours will satisfy this requirement.

Requirements for Degrees, (Cont'd)

Department	Degree	Math Requirement in semester hours	Comment
Business Administration	B. A.	9	Including statistics.
Physics	B. S.	18	Including calculus and differential equations.
Chemistry	B. S.	12	Including calculus.
Mathematics	B. S.	30	For math majors: 24 hours above freshman level.
		21	For math minors: 15 hours above freshman level.
Biology Education	B. S.	6	College algebra and 3 other hours.
Elementary Ed.	B. S. in ED.	9	If teaching field is not mathematics.
Secondary Ed.	B. S. in ED.	6	If teaching field is not mathematics.
		or 24	If teaching field is mathematics.
Library Service	B. S. in ED.	6	Any 6 hours.
(School of Home Economics)	B. S.	6	Any 6 hours.
(School of Engineering)			
Architectural	B. S.	12	Including calculus.
Civil	B. S.	15	Including differential equations.
Mechanical	B. S.	15	Including differential equations.
Electrical	B. S.	18	Including differential equations.
(School of Industrial Education and Technology)		6	College algebra, trigonometry or above.

Requirements for Degrees (Cont'd)

Department	Degree	Math Requirement in semester hours	Comment
(School of Agriculture)		6	Any six hours.
(School of Nursing)	B. S.	0	

Course Content

Math 113, College Algebra: Credit: Three semester hours. The theory of quadratic equations, systems of equations, logarithms, exponential and logarithmic equations, binomial theorem, progressions, permutations, combinations and probability.

Math 123, Trigonometry: Credit: Three semester hours. Trigonometric functions, radians, logarithms, solutions of triangles, functions of composite angles, identities, trigonometric equations. Prerequisite: Math 113.

Math 162, Introduction of Computational Processes: Credit: Two semester hours. History of calculating machines and methods of computing, the abacus, tables and formulas, the slide rule, desk calculators, application of these machines to trigonometry, logarithms, roots and powers, correlations, evaluation of statistical formulas, business and other arithmetic processes.

Math 163, Introduction to Computer Programing: Credit: Three semester hours. Description and application of basic digital computers, operation and methods of programing digital computers, developing and testing programs for the IBM 1401 Computer, programing examples, programing techniques applied to simple mathematical problems, two hours lecture per week and two hours programing per week. Prerequisite: One year college mathematics.

Math 173, 183, General College Mathematics: Credit: Three semester hours. Graphical methods, simple equations, exponents and radicals, logarithms, progressions, interest and annuities, numerical trigonometry especially designed for those students majoring in fields other than mathematics, the physical sciences, the natural sciences and engineering.

Math 115, College Algebra and Trigonometry: Credit: Five semester hours. A basic course in mathematics for engineering students. Linear, quadratic and higher degree polynomial functions and identities ; combinatorial formulas ; probability ; determinants and systems of linear equations; inverse trigonometric functions ; and trigonometric equations.

Math 125, College Algebra and Trigonometry: Credit: Five semester hours. Real number system, equations and graphs, the straight line, slope, the conic sections, limits, functions, elementary differentiation and integration.

Math 213, Analytical Geometry: Credit: Three semester hours. The straight line and conic sections, transformation of coordinates, polar coordinates, parametric equations, introduction to solid analytic geometry. Prerequisite: Math 123.

Math 214, Analytical Geometry with Calculus: Credit: Four semester hours. General methods of integration and applications of the indefinite integrals to problems in physics and geometry. Prerequisite: Math 125.

Math 224, Analytical Geometry with Calculus: Credit: Four semester hours. A continuation of Math 214. Further applications of the definite integral, power series with applications, definition and meaning of partial derivatives, hyperbolic functions, multiple integrals and introduction to differential equations. Prerequisite: Math 214.

Math 263, Structure of the Number System: Credit: Three semester hours. The language of deductive reasoning, elements of set theory, whole numbers, number lines, rational numbers, numeration system, number patterns, number bases.

*Math 273, Fundamentals of Algebra: Credit: Three semester hours. Properties of real numbers, linear equations, systems of equations, quadratic equations, inequalities, graphs, functions, problem solving, complex numbers.

*Especially designed for elementary school teachers.

Exit Requirements

The final course grade is determined by the instructor. In addition to homework and several tests, each course has a final examination. The assignments, test scores, and final examination combine to determine a final grade for the course. No limit is set on the number of times a course may be repeated other than the general limit set by college requirements for continuance in the College.

Ranger College
Ranger

Entrance Procedures

For admission, Ranger Junior College requires that a graduate of an accredited high school must have completed at least two semesters of high school mathematics. A graduate of an accredited high school who is deficient in one or more units of mathematics may be admitted conditionally. These conditions must be removed by completing 30 semester hours (all subjects) with a minimum grade average of C. Those students who have not had two units of high school algebra are required to take intermediate algebra before enrolling in college algebra.

Scores on the American College Test (ACT) or the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board (CEEB), and the record of high school work will be used by the student's advisor for counseling and in placing the student in the mathematics course most suited to his background and ability.

Since Ranger Junior College has no educational testing service, advanced placement and credit will be allowed only if the student goes to some college or university offering such service and transfers such credits from that college or university.

Freshmen are seldom admitted during a summer session, but if they are admitted, procedures will be the same as those of the regular session.

General Organization

Ranger Junior College awards the associate degree in Arts to students who successfully complete 62 semester hours of college work and meet other requirements for graduation. None of these requirements refer specifically to mathematics except that for students intending pursuit of an A. B. degree in a four-year institution. It is strongly recommended that six hours of foreign language, and Mathematics 101 or 103 be scheduled.

For must students planning to major in mathematics, 103 and 104 are recommended for their freshman year followed by Mathematics 201, 203, and 204 during their sophomore year. A similar program of mathematics is set up for those who intend to major in science (chemistry, biology, physics) and for those working toward pre-engineering. For all business administration majors, Mathematics 101 is recommended for the freshman year. For pre-medical and pre-dental majors, and for those majoring in liberal arts, Mathematics 103 and 104 are recommended for either their freshman or sophomore year. Other majors such as English have Mathematics 103 recommended for their freshman year.

Course Content

Math 101, Business Mathematics: Common and decimal fractions, bank statement reconciliation, aliquot parts, percentage, bank discount, simple and compound interest, mark-up, commissions, social security and other taxes, negotiable instruments, installment plans, inventories, insurance and graphs. Required for students in secretarial training in terminal program.

Math 102, Intermediate Algebra: A review of the fundamentals of algebra, linear and quadratic equations, logarithms of numbers, graphs of algebraic curves, graphic solutions of systems of curves and complex numbers.

Math 103, College Algebra: A short review of Math 102 plus determinants, variation, fractional exponents, inequalities, progressions, binomial theorem, theory of equations, permutations and combinations. Prerequisite: Two years of high school algebra or completion of Math 102 with a minimum grade of C.

Math 104, Plane Trigonometry: Angles and coordinates, trigonometric functions, solutions of triangles, reduction theorems and formulas, identities, conditional equations, addition formulas and derived relations. Prerequisite: Preceded by or accompanied by Math 102 or 103.

Math 201, Plane Analytic Geometry: Applications in a plane to points, straight lines, loci, transformation of coordinates, algebraic curves of higher degree, trigonometric curves, exponential and logarithmic curves, detailed study of the circle, parabola, ellipse and hyperbola.

Math 203, Differential Calculus: Topics include theory of limits, variables, functions, differentiation of standard forms and applications, successive differentiation and applications, transcendental functions and applications, maxima and minima, differentials, mean value theorem. Prerequisite: Preceded by or accompanied by Math 201.

Math 204, Integral Calculus: Rules for standard integration, constant of integration, the definite integral, integration as a process of summation, approximate integration, formal integration, multiple integrals. Prerequisite: Math 203.

Exit Requirements

Approximately five examinations including a mid-semester and a final examination are given in each course. In addition to examinations, homework is also considered in determining final grades. There is no restriction on repeating a course to improve grades.

Sacred Heart Dominican College

Houston

Entrance Procedures

Entrance requirements at Sacred Heart Dominican College include a minimum of two units of high school mathematics.

Beginning the fall semester, 1966, advanced placement (without credit) beyond algebra or trigonometry may be obtained if the student scores a minimum of 600 on the mathematics section of the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board (CEEB). Advanced placement (with credit) in college algebra, trigonometry, or plane analytic geometry may be taken during freshman orientation.

General Organization

Sacred Heart Dominican College confers baccalaureate degrees in Arts, Science in nursing, and Music. The baccalaureate degree in Arts requires the completion of six hours of mathematics. Latin may be substituted for this requirement. The six semester hour requirement may be met by obtaining credit in any combination of the following three semester hour courses: Mathematics 101, College Algebra, Mathematics 102, Trigonometry, Mathematics 103, Plane Analytic Geometry, Mathematics 109, 110, Fundamentals of Modern Mathematics. If a student obtains advanced placement in college algebra, trigonometry, and plane analytic geometry, she may proceed to Calculus I (first semester) and Calculus II (second semester). These are listed in the college catalog as sophomore courses.

Course Content

Math 101, College Algebra: Notion of variable and function and their geometric representation, quadratic equations, progressions, complex numbers, determinants, permutations, combinations, and the theory of equations.

Math 102, Trigonometry: Trigonometric functions, identities and equations with applications to problems.

Math 103, Plane Analytic Geometry: A study of straight line and conic sections.

Math 109, 110, Fundamentals of Modern Mathematics: Intended for the person with limited background in mathematics. Natural numbers, complex numbers, modular arithmetic, measurement, relations and functions.

Exit Requirements

The instructor determines the course grade on the basis of tests given at intervals during the semester and the final examination for the course. There is no limit set on the number of times a course may be repeated.

St. Edward's University

Austin

Entrance Procedures

For admission to St. Edward's University, a graduate of an accredited high school must present at least two units of high school mathematics. Students applying for admission to the pre-engineering program must present three units in mathematics: one unit in geometry, one-half unit in solid geometry or trigonometry, and one and one-half units in algebra.

At the beginning of the school year, the School and College Ability Test (SCAT) is given to all incoming freshmen. In addition to its utility for counseling, the score on the quantitative portion of this test is used to set up homogeneous grouping for the introductory mathematics course. Science majors also take the physical science aptitude test (which deals largely with mathematics), and this gives further basis for counseling students in mathematics. Advanced placement with credit is possible in two ways: (1) credit for high school advanced placement courses is accepted if a sufficiently high score is made on the advanced placement test administered by the College Entrance Examination Board (CEEB), Princeton, New Jersey; (2) an advanced standing exam in the introductory mathematics courses is given at St. Edward's at the beginning of each school year. A grade of at least B is required for credit by advanced standing. Those wishing to take this exam may write to the chairman of the science division for a listing of the material covered.

Freshmen are admitted during the summer session, but because of the smaller summer enrollment, course offerings are very limited.

General Organization

Five baccalaureate degrees are offered. The division of humanities does not require courses in mathematics. The mathematics requirements of the other divisions are given in the following table:

Division	Majors	Required Freshman Mathematics Courses	No. of Hours	Upper Class Math Requirements
Social Science				
	Economics	Math 11	3	None
		Math 12	3	
	History	None		None
Physical and Biological Sciences	Biology	Math 11	3	None
		Math 12	3	

Division	Majors	Freshman Math Requirements	No. of Hours	Upper Class Math Requirements
Physical and Biological Sciences	Chemistry, Math, and Physics	Math 17 Math 17a Math 18 Math 19	5 0 5 2	Calculus II, Advanced Calculus, Diff. Equations (plus 8 elective hours for math majors)
	General Science	Same as for math above		Calculus II
	Pre-engineering	Same as for math above		Calculus II, Differential equations
Teacher Education	Science	Math 17 Math 17a Math 18	5 0 5	Calculus II
Business Administration	Accounting, Bus. Adm., Management, Marketing	Math 11 Math 12	3 3	Finite Mathematics Math 19

Course Content

Mathematics 11, 12, General Mathematics I, II: Designed for a liberal arts curriculum. An introduction to logic, the complex number system, algebra and trigonometry, analytic geometry and functions, probability, matrices and an introduction to calculus.

Mathematics 17, Algebra and Trigonometry: The first semester course for chemistry, physics, and mathematics majors. Algebra and trigonometry, functions, sequences, limits, theory of equations, probability.

Mathematics 17a,. Slide Rule: Instruction and supervised practice in the use of the Log-Log Duplex slide rule. A non-credit required course for all physical science and engineering students, and taken concurrently with Mathematics 17.

Mathematics 18, Analytic Geometry and Differential Calculus: Prerequisite: Mathematics 17 or its equivalent. An integrated exploration of analytic geometry, differential and integral calculus.

Mathematics 19, Computer: Provides freshman science, mathematics and engineering students with instruction in programing and operation of the IBM 1620 Computer and associated equipment.

Exit Requirements

The instructor determines course grades. There are no departmental or standardized examinations. A course may be repeated for the purpose of raising the grade.

St. Mary's University

San Antonio

Entrance Procedures

For admission St. Mary's University requires graduation from an accredited high school with at least two units of high school mathematics chosen from algebra, plane geometry, solid geometry, or trigonometry.

Advanced placement is allowed by individual approval of departmental advisors.

Several programed learning courses are given in the afternoon hours in algebra, trigonometry and in geometry. They are strictly non-credit courses.

General Organization

The mathematics department offers six hours of mathematics, Mathematics 131 and Mathematics 132, for the non-mathematics majors to fulfill the general mathematics requirement for graduation. The mathematics minor goes directly into the standard freshman mathematics, taking Mathematics 241 the first semester and Mathematics 242 the second semester. For the mathematics major, the first course which is accepted for credit is Mathematics 241.

Course Content

Mt. 131, Fundamentals of Mathematics: An elementary introduction to sets and logic, a development of the number system through an axiomatic approach, proving theorems, and the concepts of functional analysis.

Mt. 132, Fundamentals of Mathematics: A study of limits and mathematical induction, an introduction to calculus, special topics such as probability and statistics or matrix algebra.

Mt. 241, Calculus with Analytic Geometry: The elements of pre-calculus, limits and continuity, differential and integral calculus of elementary functions.

Mt. 242, Calculus with Analytic Geometry: Theorems and applications of differential and integral calculus.

Sam Houston State College

Huntsville

Entrance Procedures

Admission to Sam Houston State College requires the applicant to be a graduate of an accredited high school, having a minimum of fifteen accredited units including three units of English. In addition, he must have made a certain minimum score on the American College Test (ACT). The high school diploma requirement may be waived if an applicant is at least 21 years of age, scores satisfactorily on the entrance examination and meets other entrance requirement.

Advanced placement in mathematics is allowed on the basis of a score of three or above on the examinations of the Advanced Placement Testing Program of the Educational Testing Service (ETS) of Princeton. A maximum of eight semester hours of college credit may be obtained by this means. An entering student may also obtain advanced placement without college credit as a result of his performance on the placement test administered by the mathematics department.

Freshmen admitted during a summer session are given placement tests individually at their own request. Students planning to major or minor in mathematics or the physical sciences but who are not ready for a calculus course are urged to enter in the summer to take the pre-calculus program.

General Organization

A broad range of programs is available to suit the needs of a variety of interests. They may be classified according to general areas of major interest as follows:

Students of mathematics and the physical sciences may take Mathematics 174 and 175. If a student is not adequately prepared for the preceding sequence, he may take Mathematics 162 and 163 in lieu of 174, and Mathematics 172 and 265 in lieu of 175.

Students in pre-professional and vocational programs usually take Mathematics 162 and 163. If their placement test scores are low they are urged to take Mathematics 165 as a preparatory course.

Business and economics students take Mathematics 165 and 166 unless their special interests or prepartion indicates some other need.

To satisfy requirements for a teaching certificate, students may choose two semesters of either a foreign language or mathematics. Together with elementary education majors, for whom it is required, a number of students take Mathematics 160 and 165 for this purpose.

Course Content

Mathematics 160, Mathematical Fundamentals: A logical development of the rational numbers beginning with sets and the cardinal and ordinal properties of numbers. The useful pertinent concepts of numerals, bases, geometry, coordinates, percentage and measure are included.

Mathematics 162, College Algebra: A brief review of intermediate algebra, variation, theory of equations, systems of equations, finite induction, the binomial theorem, progressions, probability, exponential and logarithmic functions presented in the modern language of sets, functions, and relations.

Mathematics 163, Plane Trigonometry: A review of pertinent basic geometry, coordinate systems, circular functions, solution of triangles, identities, trigonometric equations, inverse functions and complex numbers.

Mathematics 165, Introductory Algebra: Algebraic concepts and skills are evolved around the process of developing number systems from the natural numbers through the complex numbers. Techniques involving exponents, logarithms, graphs, and equation solving essential to a successful study of Mathematics 162, 163, and 166 are developed.

Mathematics 166, Elementary Mathematics of Finance: The mathematical formulas and theory for solving problems involving money lending, investments, installment buying, annuities and insurance are developed and applied to typical problems.

Mathematics 172, Analytical Geometry: Beginning with the axis of real numbers, coordinate systems and related formulas for one, two, and three dimensional geometry are developed simultaneously. Points, lines, planes, conic sections, quartic surfaces and equations representing such sets of points are studied.

Mathematics 174, Basic Modern Mathematics: An axiomatic, set theoretic treatment of number systems, algebraic equations, functions, graphs, trigonometry, theory of equations and probability. It is designed for students with high ability but not enough skill and background to by-pass college algebra and trigonometry.

Mathematics 175, Elementary Analysis: Analytic geometry and elementary calculus are combined in this course which is designed to cover the first third of such an integrated type textbook. This involves equations of lines, slope, graphs, limits, the derivative of algebraic functions, elementary integration, and applications of calculus to problems in geometry, physics and other areas.

Exit Requirements

Approximately five or six one-hour examinations are administered each semester in these courses. The results of these tests together with that of a comprehensive type two-hour final examination provides the major basis for the course grade. A course may be repeated for the purpose of raising a grade.

San Antonio College

San Antonio

Entrance Procedures

The admission policy of this college is traditionally described as an "open door" policy; however, most of our students are high school graduates. Because of this policy, we have freshmen students entering each semester, including the two summer semesters. The entrance procedures remain the same, however, as during the regular semesters.

Entering freshmen are requested to attend a pre-registration counseling session. At this time, professional counselors and faculty members advise the student on the courses he should take.

The American College Test (ACT) is given to all entering freshmen and their scores on the mathematics portion of this test, together with their grades in high school mathematics courses, are used to advise the student as to which mathematics course he should take.

Advanced standing (with credit) in college algebra and/or trigonometry may be obtained through an appropriate score on exams which are published by the Education Testing Service (ETS). This credit, however, is not given until the student has passed six additional hours in mathematics.

General Organization

San Antonio College grants a certificate of completion or an associate degree in Arts, neither requiring any mathematics courses; or an associate degree in Science which requires six hours of mathematics. Liberal arts students are advised to take college algebra and trigonometry. Business administration majors are advised to take college algebra followed by mathematics of investment. Science, engineering, and mathematics majors are encouraged to take all the courses offered except Mathematics of Investment.

Course Content

Remedial Courses: (non-credit)

Mathematics 001, Pre-college Mathematics: The arithmetic and structure of the set of natural numbers and the integers, solution of first degree equations, inequalities in one variable, products, factors, fractions and fractional equations.

Mathematics 900x, Intermediate Algebra: Axioms of the real numbers, the development of the theorems or porperties of the real numbers, the integers and rational numbers, solution of simple equations, verbal problems leading to system of equations in two variables, and solution of quadratic equations.

Credit Courses:

Mathematics 300, College Algebra: Primarily designed for liberal arts students. The axioms of an ordered field, some elements of logic and proof of theorems, relations and functions, logarithms, determinants and complex numbers.

Mathematics 301, Plane Trigonometry: Functions, trigonometric relations, rectangular coordinates, polar coordinates, radian measure, applications of trigonometric functions, complex numbers and DeMoivre's theorem.

Mathematics 309, College Algebra: Primarily designed for students of science and engineering. Solving inequalities, absolute value and the triangle law, axiom of completeness, study of functions (polynomial, rational exponential, logarithmic, inverse, composite), the slope quotient, binomial theorem, mathematical induction, determinants, and complex numbers.

Mathematics 305, Plane Analytic Geometry: Prerequisite: Math 301 and three semester hours of college algebra. The elements of plane analytic geometry, Cartesian coordinates, polar coordinates, parametric equations and loci.

Mathematics 307, Mathematics of Investment: Prerequisite: Math 300 or equivalent. Theory and application of annuities, simple interest, simple discount, compound interest, annuities with simple data, the extinction of debt by period installment, bonds, depreciation, perpetuities, capitalization, general annuities. Recommended for all business administration and pre-law students.

Mathematics 613A, Differential and Integral Calculus: Prerequisite: Credit for or enrollment in Mathematics 305. Limits, continuity, derivatives of algebraic and elementary transcendental functions, extrema of functions, mean value theorem, Riemann sums and integrals, the fundamental theorems of the calculus, and areas by integration.

Schreiner Institute

Kerrville

Entrance Procedures

The entrance requirements to Schreiner Institute are stated in the Schreiner Institute Catalog which is available from the Registrar, Schreiner Institute, Kerrville, Texas 78028. For admission to the freshman class, certification of graduation from an accredited high school is required. Two entrance units of mathematics (either two in algebra or one in algebra and one in geometry) are required.

Scores on the American College Test (ACT) and the record of high school work are used by the student's advisor in placing the student in the mathematics course best suited to his ability and preparation.

Advanced standing with credit in college algebra and/ or trigonometry may be obtained through an appropriate score on an advanced standing test. Advanced placement without credit past college algebra and/ or trigonometry may be obtained by making a satisfactory score on the quantitative portion of either the ACT or the Scholastic Aptitude Test (ACT).

General Organization

A minimum of six semester hours of mathematics is required for the associate degree in Arts. These six hours may be earned by taking three semester hours in any two of the following mathematics areas: college algebra, trigonometry, mathematics of finance, analytic geometry and calculus.

Course Content

Mathematics 130, Intermediate Algebra (terminal credit only): This course is designed for those students whose records and test scores indicate they will be unable to do satisfactory work in college algebra. A review of the fundamental algebraic operations, fractions, percentage, signs of grouping, linear equations, systems of linear equations, exponents and radicals.

Mathematics 131, College Algebra: Quadratic equations, ratio, proportion, variation, progressions, binomial theorem, complex numbers, determinants and partial fractions.

Mathematics 123, Solid Geometry: Required of all students in the engineering department who do not present solid geometry for entrance and recommended for students who wish to strengthen their mathematical background.

Mathematics 134, Mathematics of Finance: Designed for students in business administration. Interest, discounts, debt retirement, depreciation, perpetuities, annuities and related applications of mathematical principles to investment problems. It is open to students with credit or advanced placement in college algebra.

Mathematics 135, Plane Trigonometry: Plane trigonometry with emphasis on trigonometric identities and equations.

Mathematics 136, Plane and Solid Analytic Geometry: Analytic geometry for the freshman engineering student. It is open to students with credit or advanced placement in college algebra and trigonometry.

Mathematics 231, Calculus: Applied and theoretical aspects of calculus. It is open to all students with credit for analytical geometry.

Mathematics 232, Calculus: A continuation of Mathematics 231.

Exit Requirements

The individual instructors determine the course grades by the student's performance on homework, several tests and a final examination in each course. There is no limit on the number of times a course may be repeated.

South Plains College

Levelland

Entrance Procedures

General entrance requirements to South Plains College provide that a prospective freshman student shall be a graduate of an accredited high school and must have completed at least two units of high school mathematics.

All entering freshmen are required to take the American College Test (ACT) prior to, or during, the registration period. The scores on this test and the record of high school work will be used by the student's advisor in placing the student in the mathematics courses most suited to his background, ability and college major.

Students planning to major in pre-engineering, major or minor in mathematics, or major in one of the physical sciences may take advanced standing examinations in college algebra and trigonometry. No credit is allowed for these courses, but satisfactory completion of these tests will enable these students to begin their college mathematics sequence with analytic geometry and calculus.

Entering freshmen are encouraged to attend the summer session with admission procedures being the same as those of the regular session.

General Organization

The specific courses in mathematics which an entering freshman will choose to include in his program depend on degree requirements of his major field, on the prerequisites of the various courses, and on his high school record. Entering freshmen who have completed only one unit of high school algebra are required to enroll in Mathematics 130, Intermediate Algebra, or Mathematics 135, Introductory College Mathematics, as a prerequisite for taking additional courses in mathematics.

Entering freshmen are strongly encouraged to consult their academic advisor to determine specific degree requirements in mathematics at the senior college or university to which they expect to transfer.

Course Content

Mathematics 130. Algebra: This course is designed specifically for students who have completed only one unit of high school algebra. A review of basic algebra, quadratic equations, ratio and proportion, and variation. Credit in this course is not allowed for students majoring or minoring in mathematics or a natural science.

Mathematics 131. College Algebra: Open to all students who have completed two units of high school algebra, or Math 130.

Mathematics 132. Trigonometry: Trigonometric functions, solutions of right and oblique triangles, trigonometric identities and equations, inverse trigonometric functions, and complex numbers; open to all students with credit or advanced standing in college algebra.

Mathematics 135, Introductory College Mathematics: Designed for general education. Set theory and notation, numeration systems, the fundamental operations of arithmetic, elementary algebra, and the systems of measurement; open to all students.

Mathematics 136. Elements of Mathematical Systems: Designed for general education and required for majors or minors in mathematics. An introduction to logic, set theory and notation, modular arithmetic, abstract mathematical systems, and elementary modern algebra; open to all students who have completed three semester hours of college mathematics.

Mathematics 137 and 138. Mathematical Analysis: Designed for students majoring in business administration. Introductory logic and set theory, real number properties, inequalities and equations, elementary functions, vectors, matrices, linear programming, probability, progressions and elementary calculus; open to all students with credit or advanced standing in college algebra.

Mathematics 231. Analytic Geometry: Open to all students with credit or advanced standing in college algebra and trigonometry.

Mathematics 233. Differential Calculus: Open to all students with credit in analytic geometry or who are taking analytic geometry concurrently.

Engineering 121. Engineering Problems: Provides instruction in the use of the slide rule and a brief introduction to computer programming. Open to all students and required for pre-engineering, mathematics, and science majors.

Engineering 135 and 136. Engineering Drawing and Descriptive Geometry: Open to all students with credit for one unit in geometry.

Exit Requirements

The determination of course grades is left to the discretion of the individual instructor. In addition to homework, several daily tests, a minimum of four major examinations, and a final examination are given. The college has no policy concerning repetition of courses for the purpose of raising the grade.

Southern Methodist University

Dallas

Entrance Procedures

Admission to Southern Methodist University is based on the high school record of achievement, a college preparatory course of study, College Entrance Examination Board (CEEB) scores, personal interviews, and recommendations. Among the required high school units (at least 13), three units of mathematics are required. Students preparing for engineering should present three and one-half units of mathematics, including one-half unit of trigonometry. In addition to the CEEB tests, those who wish to take calculus in college should also take the achievement test in mathematics, Level I (standard), during the senior year in high school. Scores on this test are used to determine the proper course in mathematics for the student. Provision for advanced placement in the calculus field is made for the student who has taken the advanced placement test given by the CEEB in May. If there is a deficiency in the number of units of high school mathematics, Mathematics I, Basic Algebra, a remedial course, is taken with no credit.

All beginning freshmen enter the University College regardless of what their ultimate major field of study may be. Each freshman is assigned an academic advisor who counsels with him periodically. Freshmen are admitted to the summer session with procedures being the same as those of the regular session.

General Organization

The University College requires each freshman to take Mathematics 8, Introduction to Mathematical Concepts, or Mathematics 37 and 38, Mathematical Analysis. A course in logic may be substituted for Mathematics 8 to satisfy the University College requirements.

For a degree from the school of humanities and sciences, six hours of mathematics are required, if only three units of mathematics are offered for admission; three hours if three and one-half units are offered on admission; none if four or more units are offered on admission.

For a degree from the school of business administration, six hours of mathematics are required.

A wide range of courses are open to freshmen. The courses chosen depend upon University College requirements, degree requirements, individual tastes, and prerequisites.

Course Content

Math 1, Basic Algebra: Required for those who lack part of the specific entrance units in mathematics; a review for those who have required entrance units but feel unprepared for Mathematics 2. This course may not be used to satisfy the degree requirements in mathematics.

Math 2, College Algebra: Begins with quadratic equations. See Math 3.

Math 3, Plane Trigonometry: Emphasis on analytical trigonometry. Both Math 2 and 3 are essential preparation for continuation into the calculus field for those who wish to continue work in mathematics and who do not have the equivalent preparation from high school (at least three and one-half units). No credit for Math 3 is given to students who have had trigonometry in high school.

Math 4, Algebra and Trigonometry: An integrated course. Special emphasis on algebraic operations and analytical trigonometry. For students who have had the equivalent courses in high school but need further training before taking the integrated analytic geometry-calculus sequence. No credit allowed for students who have college credit in Math 2 or 3.

Math 8, 9, Introduction to Mathematical Concepts: Sets and functions, logic, groups, real and complex number systems, polynomial and exponential functions, statistics, probability, matrices and determinants. Analytic geometry and polynomial calculus are introduced in Math 9. For those students who feel they will have no need for further technical training in mathematics. (Emphasis is on concepts rather than skills.) A University College requirement for all students who do not take the calculus. Also recommended for majors in elementary education, social sciences, and business.

Math 21, Mathematics of Finance: Follows Math 2 or equivalent of high school mathematics. Interest, annuities, amortizations, bonds, sinking funds, loans. Satisfies part of the mathematics requirement in school of business administration and school of humanities and sciences.

Math 37, 38, and 39, Mathematical Analysis: (A three-course sequence in integrated analytic geometry, differential and integral calculus.) For those students whose high school background is strong. Basic requirements for engineers, majors in mathematics, chemistry, geology, physics, and recommended for biology and economics.

Exit Requirements

Daily written assignments, approximately five one-hour quizzes, and a final examination are given in each course. The final course grade is determined by the instructor. A course may be repeated. In the computation of the final grade average, all courses attempted are counted.

Southwest Texas Junior College
Uvalde

Entrance Procedures

Any graduate of an accredited high school will be admitted if he meets the conditions as set out in the catalog. No specific mathematics requirements are included in these conditions.

Recommendations in regard to placement in mathematics courses are made to the student after a conference. Students whose high school background in mathematics is particularly good are allowed to enroll in Mathematics 138, Analytic Geometry, and Mathematics 231, Differential Calculus.

No mathematics courses are offered during the summer session.

General Organization

The associate degree in Arts is conferred by Southwest Texas Junior College. The general requirement is three semester hours of mathematics.

Course Content

Math 137, College Arithmetic: Intended for those students who need to strengthen their background in mathematics. Introduction to logic, numeration systems, fundamental operations of arithmetic, systems of measurement, and introduction to elementary algebra. Any student may take this course.

Math 131, Algebra: Intended for those students who lack skill in fundamental algebra. Review of the fundamentals of algebra, graphs, systems of linear equations, exponents and radicals, stated problems, quadratic equations, and the binomial theorem. Any student may take this course.

Math 132, Trigonometry: Trigonometric functions, identities, trigonometric equations, circular measure, logarithms, addition formulas, solution of triangles, and complex numbers. Prerequisite: Math 131 or Math 133 or taken concurrently.

Math 133, College Algebra: Quadratic equations, graphs, ratio and proportion, theory of equations, permutations and combinations, determinants, complex numbers, probability, progressions, and other selected topics. Prerequisite: Math 131 or two years of high school algebra and one year of geometry and trigonometry in high school.

Math 138, Analytical Geometry: A study of the coordinated plane, the straight line, the circle, the parabola, the ellipse, the hyperbola, polar coordinates, transformation of coordinates, parametric equations, and higher plane curves. Prerequisite: Math 132 and Math 133 or approval of instructor.

Math 231, Differential Calculus: This course covers principles of differential calculus as applied to differentiation, related problems, maxima and minima, and curvature. Prerequisite: Math 138 or taken concurrently.

Math 232, Integral Calculus: This course covers the principles of the integral calculus as applied to integration, areas, lengths of arcs, areas of surfaces of revolution, volumes, pressure and work. Prerequisite: Math 231.

Exit Requirements

Six quizzes or examinations are given during each semester in addition to a comprehensive final examination. About 24 daily papers are required to be handed in. Grades are determined by individual instructors in accord with established guidelines. A student may repeat a course in order to raise a grade, but both grades will appear on his permanent record.

Southwest Texas State College

San Marcos

Entrance Procedures

Minimum entrance requirements: graduation from an accredited high school with a total of 16 units of credit not including health and physical education but including two units of mathematics, preferably algebra and geometry.

Mathematics 1301, 1310, 1313, 1315, 1317, and 2363 are open to freshmen who have completed the prescribed prerequisites. Mathematics 1310, Basic Mathematics, is required of all students. Advanced standing examinations are given, but not recommended, for Mathematics 1315, College Algebra, and Mathematics 1317, Trigonometry.

Mathematics 1310-1315 and Mathematics 1317-2363 are offered in the fall and spring semesters respectively to honor students. These classes meet six hours weekly and permit a good student to complete 12 hours of mathematics in two semesters.

Freshmen are admitted at each of the winter semesters and summer terms.

General Organization

The college grants the following undergraduate degrees. Also listed are the minimum hours required in mathematics. Consult our current catalog for complete requirements.

Baccalaureate Degrees in	Hours
Arts	3-30*
Science	3-30*
Science in education	6
Science in commercial art	3
Science in home economics	3
Science in industrial arts	6
Science in agriculture	3
Music education	3
Business administration	6

* The number of hours required depends on the major and minor selected.

Mathematics 1301, Solid Geometry: Properties of the plane, regular polyhedrons, prisms and cylinders, pyramids and cones, and the sphere. Prerequisite or parallel: Mathematics 1310.

Mathematics 1310, Basic Mathematics: A basic course in college algebra which satisfies the needs of mathematics majors and minors, students of engineering, business administration, agriculture, home economics, and other areas.

Mathematics 1313, Business Mathematics: A course designed for business administration students. A brief review of fundamental processes, the study of simple and compound interest, the problems of trade and cash discount, retailing, ownership and corporate securities, social security, personal and business insurance, property tax, home ownership and similar topics. Prerequisite: Mathematics 1310 or equivalent.

Mathematics 1315, College Algebra: A course in college algebra which continues the development studied in Mathematics 1310. Prerequisite: Mathematics 1310.

Mathematics 1317, Plane Trigonometry: Trigonometric functions, trigonometric identities, related angles, radian measure, graphs of the trigonometric functions, functions of multiple angles, logarithms, right triangles, oblique triangles, inverse trigonometric functions, complex numbers.

Mathematics 2363, Analytic Geometry: The point, loci, the straight line, the circle, conics, tangents, transformation of coordinates, parametric equations, and polar coordinates. Prerequisite: Mathematics 1310 and 1317.

Exit Requirements

Each instructor is responsible for teaching his courses, for preparing and grading his quizzes and examinations and for determining the semester grade for each student. Usually four quizzes and a final examination are given in each section. A course may be repeated for the purpose of raising a grade; the second grade replaces the first grade.

Southwestern Assemblies of God College
Waxahachie

Entrance Procedures

Since enrollees at Southwestern Assemblies of God College come from broad geographical areas and have a wide variety of academic preparation, no stipulation is made to the number of units of high school mathematics required for admission.

All entering freshmen are required to have scores of the American College Test (ACT) submitted to Southwestern, but the test is not used for placement in the mathematics area. No provision is made for advanced placement in mathematics. Freshmen are not ordinarily admitted to the mathematics program during the summer session.

General Organization

Southwestern Assemblies of God College, Junior College division, offers a diploma and the associate degree in Arts program. No mathematics requirement is listed for graduation from the Junior College. A freshman course in mathematics will be added as a requirement for the associate degree in Arts beginning with the fall semester, 1966. In addition to this course in freshman mathematics, the Junior College will offer college algebra, plane trigonometry, and analytic geometry.

Course Content

Freshman Mathematics: This course is being added to the curriculum for the fall semester, 1966, and the course syllabus has not been prepared at this time. Open to all students and will be a requirement for any student pursuing the associate degree in Arts program.

Math 113, College Algebra: The binomial theorem, progressions, and exponents, quadratic equations, ratio and proportion, and theory and use of logarithms.

Math 123, Plane Trigonometry: The function of angles, the solution of triangles, equations and identities, inverse functions, and the graphical representation of the functions.

Math 213, Analytical Geometry: A study of the geometry of the straight line, circle, parabola, ellipse, hyperbola, parametric equations, and tangents.

Exit Requirements

The only requirements in this area will be satisfactory completion of the work in the courses undertaken.

Southwestern Union College

Keene

Entrance Procedures

For admission, Southwestern Union College requires graduation from an accredited high school.

A short mathematics examination is given to all freshmen on entrance in college and the scores from these tests and the record of high school work are used by the students' advisors in placing them in the mathematics course most suited to their background and ability.

Students with strong background and high scores on entrance examinations are permitted to start with the analytical geometry and calculus sequence.

Course Content

Mathematics for Elementary School Teachers: A six-hour course covering number systems and their make-up. The discovery approach is used.

Freshman Mathematics Ia: A three hour course designed for non-science majors who have had only one year of high school algebra. An introduction to set theory, factoring, quadratic equations, linear equations, determinants, ratio and proportion.

Freshman Mathematics Ib: Following Freshman Mathematics Ia, this course is a study of the usury laws of Texas. Formulas for compound interest, simple interest, and annuities.

Freshman Mathematics IIa: Designed for freshmen planning to take the calculus sequence. Topics include set theory, real numbers as a complete ordered field, synthetic division, mathematical induction and the binomial theorem, determinants and matrices, functions and relations, and an introduction to probability.

Freshman Mathematics IIb: Prerequisite to calculus, this course consists of a study of the transcendental functions.

Analytical Geometry and Calculus: A two-semester course bearing five hours credit each semester. Topics include analytical geometry, differential and integral calculus through partial differentiation, and an introduction to infinite series.

Southwestern University

Georgetown

Entrance Procedures

For admission, Southwestern University requires that a graduate of an accredited high school must have completed two years of high school mathematics.

All freshmen with College Entrance Examination Board (CEEB) - Scholastic Aptitude Test (SAT) (Math) scores of 625 or more are eligible for advanced placement examinations (standardized) administered by the mathematics department during orientation week. Advanced placement with or without credit, depending on the test grade, is given. Advanced placement and credit is provided for every mathematics course in which a student can present evidence to the department of his ability to take such tests.

General Organization

The Department of Mathematics offers three sequences of courses for the entering student. Each student selects from these sequences as required by his degree plan.

The baccalaureate degree in Arts requires 16 hours from mathematics and natural science. The baccalaureate degree in Science requires ten hours of mathematics through calculus. A degree in education requires 15 hours from science, mathematics, and language. A degree in business administration requires eight hours of mathematics and a fine arts degree requires six hours from mathematics and science.

Course Content

Mathematics 311, Trigonometry: Algebra and geometry of complex numbers, rudiments of numerical trigonometry and plane analytic geometry, exponents and logarithms.

Mathematics 312, Algebra: Elementary functions, their graphs and applications, introduction to three dimensional analytic geometry.

Mathematics 514, Mathematics for Social Sciences: Sets, logic, partitioning and counting, probability, introduction to matrices, introduction to calculus, applications.

Mathematics 515, Introductory Mathematical Analysis: Sets, relations and functions, mathematical systems, equations and inequalities, sequences and series, matrices and determinants.

Mathematics 525, Analytic Geometry and Calculus

Mathematics 526, Calculus

Mathematics 350, Applied Statistics: Descriptive methods, inductive techniques, design of experiment.

Only one of Mathematics 311 and 312 or 514 and 515 may be counted for credit.

Exit Requirements

The grade is determined by the instructor. Several hour examinations and a three hour final examination are given. Homework is given and checked regularly; however has minor value in grade determination. Courses may be repeated subject to departmental approval.

Stephen F. Austin State College

Nacogdoches

Entrance Procedures

General entrance requirements to Stephen F. Austin State College are set forth in the General Bulletin of the college. This bulletin is available from the Registrar, Stephen F. Austin State College, Nacogdoches, Texas, 75961.

For admission, the high school graduate must present two units in mathematics including at least one unit in algebra. It would be well for those who plan to specialize in mathematics, science, or in the fields of dentistry, engineering, or medicine to take all of the college preparatory mathematics available in the high school.

Advanced standing (with credit) in college algebra, trigonometry, and analytic geometry may be obtained through an appropriate score on an advanced standing examination administered by the head of the mathematics department at Stephen F. Austin State College.

The college participates in the advanced placement program of the College Entrance Examination Board. High school students may take advanced placement examinations using the results to request advanced placement in the college or to request college credit, or both. Any student receiving a grade of 3, 4, or 5 in the mathematics test will be given credit in Mathematics 135, College Algebra, and Mathematics 139, Plane Analytic Geometry.

Entering freshmen are encouraged to attend the summer session of Stephen F. Austin State College following their graduation from high school. By a proper choice of mathematics courses, those freshmen selecting careers in science may accelerate their progress significantly.

General Organization

The mathematics department of Stephen F. Austin State College offers a wide range of courses which are open to freshmen. Most are designed to give a broad understanding of both the structure and applications of mathematics. The entering freshman will choose from the courses below depanding on degree requirements, individual tastes, and prerequisites.

The baccalaureate degree in Arts and Sciences require three semester hours of mathematics. The baccalaureate degree in Business Administration requires six semester hours of mathematics. A degree in Forestry requires college algebra and plane trigonometry. There are no mathematics requirements for a degree in home economics or music.

Course Content

Mathematics 117, Agricultural Mathematics: Selected topics from basic mathematics to meet the needs of students of agriculture; practical problems in feed, fertilizers, dairying, and farm mechanics. Required of students working for the baccalaureate degree in Agriculture.

Mathematics 121, Fundamentals of Business Mathematics: Percentage, elementary algebra in business, interest, taxes, insurance, graphs, business ownership, basic problems in retailing, personal borrowing, statistics in business. Required of candidates for the B.B.A. and others who major or minor in business administration.

Mathematics 122, Fundamentals of Business Mathematics: Exponents and radicals, logarithms, progressions, the binomial theorem, simple annuities, amortization and sinking funds, depreciation and capitalized cost, bonds, life insurance. Required of candidates for the B.B.A. and others who major or minor in business administration. Prerequisite: Either Mathematics 121 or 123 or 135.

Mathematics 123, Intermediate Algebra: Factoring, fractions, linear equations in one unknown, graphs, systems of linear equations, exponents and radicals, quadratic equations. Will not be accepted toward a major or minor in mathematics.

Mathematics 133, Plane Trigonometry: Trigonometric functions of angles; logarithms; radian meausres; fundamental identities; addition, product, and half angle formulas; solutions of triangles; polar coordinates; inverse trigonometric functions; complex numbers.

Mathematics 135, College Algebra: Ratio, proportion, variation, quadratic equations, inequalities, topics from theory of equations, systems of equations involving quadratics, progressions, permutations, combinations, probability, binomial theorem, determinants, partial fractions and mathematical induction.

Mathematics 139, Plane Analytic Geometry: A beginning course in plane analytic geometry including the straight line, the circle, parabola, ellipse, hyperbola, and the transformation of coordinates. Prerequisites: Mathematics 133 and 134.

Mathematics 227, Fundamentals of Arithmetic: The acquisition in precise form of those ideas or concepts in terms of which the quantitative thinking of the world is done. Understanding and correct use of whole numbers, common and decimal franctions, percentage, measurements. Short methods for rapid calculation.

Mathematics 233, Differential and Integral Calculus: Functions, limits, derivatives, differentiation of algebraic functions, applications of the derivative, the definite integral, infinite limits and limits of sequences. Prerequisite: Mathematics 139.

Mathematics 237, Modern Mathematics in the Elementary School: Concepts of sets, numeration, nature and properties of addition and subtraction, sets of points, recognition of common figures, nature and properties of multiplication and division, developing the concept of fractional numbers, linear measurement, factors, primes, common denominators, properties and techniques of addition and subtraction of fractional numbers, side and angle relationships of triangle, measurement of angles, extending systems of numeration, areas, multiplication and division of fractional numbers, area of rectangular regions, introducing exponents. Will not count toward a major or minor in mathematics.

Exit Requirements

The course grade is determined by the teacher of the class. Grade analysis statistics are turned in at frequent intervals to the department head for purposes of study and a basis for consultation with the staff member. In addition to homework and several tests, each course has a final examination. No limit is set on the number of times a course may be repeated other than the general limit set by the college.

Sul Ross State College

Alpine

Entrance Procedures

Students may obtain admission to Sul Ross State College by high school credit or by entrance examinations. Graduates of accredited high schools must present sixteen accredited units, including two units in mathematics. Any applicant for college admission who is eighteen years of age and who is not a graduate of an accredited high school may absolve the admission requirements by taking entrance examinations administered by Sul Ross State College.

In addition to the above requirements, all applicants for admission to Sul Ross State College will be required to take the American College Testing Program test (ACT).

Advanced placement and credit will be allowed in all mathematics courses if so warranted by scores on the ACT, scores on entrance examinations, and the record of high school work.

Freshmen are admitted during the summer session, with admission procedures being the same as those of the regular session.

General Organization

The baccalaureate degrees in Arts, Science, and Business Administration are conferred by Sul Ross State College. Each of these degrees requires the completion of six hours in mathematics.

Course Content

Mathematics 132, Plane Trigonometry: Trigonometric functions, radians, logarithms, solutions of triangles, functions of composite angles, identities, and trigonometric equations. Students must have one unit of high school algebra and plane geometry and credit for, or registration in, Mathematics 133 or 135.

Mathematics 133, College Algebra: Includes a review of high school algebra, quadratic equations, variations, progressions, graphs, binomial theorem, logarithms. Student must have one unit of high school algebra.

Mathematics 134, Survey of Fundamentals of Mathematics: Consists of a review of basic arithmetic, algebra, trigonometry, and logarithms. This course is open to any student admitted to Sul Ross State College.

Mathematics 135 and 136, College Algebra for Engineers: The number system, algebraic expressions, functions, graphs, polynomials, fractional expressions, linear equations, functions, integral and fractional exponents, radicals, quadratic equations and functions, systems of equations involving quadratics, ratio, proportion, variation, complex numbers, theory of equations, determinants, elimination theory, permutations, combinations, probability, mathematical induction, the binomial theorem, progressions, inequalities, logarithms, partial fractions, infinite series, interpolation and curve fitting. Prerequisite: Two years of high school algebra.

Exit Requirements

Approximately five examinations, including a final examination, are given in each of the courses described in the preceding section. These examinations are not departmentalized. Grading procedures and final grades are left to the individual instructor. Whenever possible, the same instructor teaches the different sections of the same course to provide for some degree of uniformity in assigning final grades.

Tarleton State College

Stephenville

Entrance Procedures

For admission, Tarleton State College requires that a graduate of an accredited high school must have completed at least two units of high school mathematics. Three or more units of mathematics are recommended strongly for all students.

During orientation week a short mathematics examination is given to all freshmen in mathematics, engineering, and agricultural programs and to those in other programs who desire it. The results of this examination, the scores on the College Entrance Examination Board (CEEB), Scholastic Aptitude Test (SAT), and the record of high school work will be used by the student's advisor in placing the student in the mathematics course more appropriate to his mathematical maturity and ability.

Advanced placement tests are prepared by the mathematics department and given to those who apply. A course may be by-passed, but no credit is given for that course.

Freshmen are admitted during the summer session with admission requirements being the same as those of the regular session.

General Organization

The baccalaureate degrees in Arts and Science are conferred by Tarleton State College. A minimum of three semester hours of mathematics is required for either degree. In addition, for either degree a minimum is nine semester hours chosen from mathematics and science courses are required with the exception of the majors in general business.

The minimum mathematics requirement for programs leading to the baccalaureate degree in Science vary from six semester hours for business administration and biology students to twenty-seven minimum for mathematics students. Business administration students are required to take Mathematics 108, Mathematics of Finance, after completing Mathematics 107, General College Mathematics, or Mathematics 102, College Algebra. Other students usually take Mathematics 102 first if not deficient in mathematical maturity. Students that are deficient are counseled to take Mathematics 107 before taking Mathematics 102. The other freshmen courses for science and mathematics students are in order as usually taken: Mathematics 103, Trigonometry, and Mathematics 104, Analytic Geometry.

Course Content

Mathematics 107, General College Mathematics: Emphasis is placed upon portraying the nature of mathematics as an axiomatic and logical system, algebra, and a brief introduction to trigonometry.

Mathematics 108, Mathematics of Finance: Simple and compound interest, discount, elementary statistical measures, annuities, sinking funds, depreciation schedules, stocks, bonds, and life insurance.

Mathematics 102, College Algebra: Topics included are systems of quadratic equations, ratio, proportion, variation, mathematical induction, binomial theorem, inequalities, complex numbers, theory of equations, determinants, matrices, and partial fractions.

Mathematics 103, Trigonometry: Angles and coordinate systems, trigonometric functions, solutions of triangles, identical and conditional equations, linear and angular speed, logarithms, and radian measure are the principal topics studied.

Mathematics 104, Analytical Geometry: Topics included are loci, straight lines, conic sections, transcendental curves, miscellaneous algebraic curves, rectangular and polar coordinates, cylindrical and spherical coordinates in three dimensions. Sketching curves in two dimensions and quadratic surfaces in three dimensions are also emphasized.

Exit Requirements

In each of our freshman mathematics courses a minimum of three major examinations are given. The average of these three examinations counts as two-thirds of the course grade. The additional one-third of course grade is based equally upon grade obtained on daily independent work and the overall subjective evaluation of the instructor. An average of sixty to seventy per cent will yield the minimum exit grade of D with no grade points. A grade of C (70% to 80%) earns one grade point, B (80% to 90%) earns two grade points, and an A(90% to 100%) earns three grade points for each semester hour of the course. Each of the freshman courses earn three semester hours credit upon completion satisfactorily. The basis for grading is uniform.

A course may be repeated. Only the highest grade is used in computing grade points for graduation provided the highest grade is made during the first four semesters of college. After the first four semesters all grades in one course will be used in computing grade points for graduation.

Temple Junior College

Temple

Entrance Procedures

For admission to Temple Junior College, a graduate of an accredited high school must have completed at least two units of prescribed high school mathematics.

Advanced placement past college algebra and/or trigonometry may be secured by taking a standardized examination over algebra and/or trigonometry during the fall orientation program.

Freshmen are admitted during the summer session but no advanced placement examinations are given.

General Organization

Mathematics courses are designed to meet degree requirements of freshmen in general education, as well as more specialized fields of medicine, engineering, business, chemistry, pharmacy, mathematics and biology. For others see catalog.

Course Content

Mathematics 113, College Algebra: Designed for general education emphasizing the theoretical aspects of algebra.

Mathematics 113A, Modern College Algebra: Designed for students who will need advanced training in mathematics, including the study of sets, numbers, and logic of algebra.

Mathematics 123, Plane Trigonometry: Designed for pre-engineers.

Mathematics 123A, Mathematics of Finance: Designed for business majors. Prerequisite: Mathematics 113 or equivalent. (This course may be dropped soon due to new business requirements.)

Mathematics 213, Analytic Geometry:

Mathematics 213A, Calculus II: Designed to emphasize both theoretical and applied aspects of calculus.

Exit Requirements

The exact determination of the course grade is left to the individual instructor who is under the supervision of the department chairman and who is guided by the approved course outline provided by the department chairman.

The student is required to attend classes regularly, make adequate preparation for daily classwork, and attain passsing marks on daily and unit tests in addition to the final examination.

No limit is set on the number of times the student may repeat a course.

Texarkana College

Texarkana

Entrance Procedures

For admission, Texarkana College requires graduation from a standard, affiliated high school with at least fifteen units of high school credits, including three units in English and/or College Entrance Examination Board (CEEB) or General Educational Development (GED) test scores. Scores from American College Tests (ACT), CEEB, or GED are used.

The ACT mathematics test is given to determine whether a student should be placed in analytic geometry or college algebra.

General Organization

Students majoring in mathematics or engineering are expected to take Mathematics 136, Analytic Geometry, Mathematics 231, Calculus I, Mathematics 232, Calculus II, and Mathematics 233, Calculus III, at Texarkana College. Most students who do not plan to major or minor in mathematics take Mathematics 131, College Algebra, and Mathematics 132, Plane Trigonometry. Business majors take Mathematics 134, Math of Finance in place of Mathematics 132. Elementary education majors take Mathematics 135, Basic Math.

Course Content

Math 130, Intermediate Algebra: Sets, fundamental processes, equations through quadratics, functions, graphs, linear systems of equations, ratio, proportion, variation, progressions, exponents and radicals.

Math III, Slide Rule: Use of the slide rule, solutions of problems.

Math 131, College Algebra: Sets, logic, permutations, combinations, probability, inequalities, partial fractions, complex numbers, determinants, absolute values, functions and inverse functions, graphs, polynomials, and mathematical induction. Prerequisite: Two units of high school algebra.

Math 132, Plane Trigonometry: Sets, ordered relations, intervals, functions, inverse trigonometric functions, radian measure, variations, graphs of the functions, solutions of triangles, identities, equations, and complex numbers.

Math 133, Business Mathematics: Drill in fundamentals, short methods, fractions, percentage, proportion, interest and discount, stocks and bonds, depreciation, taxes and insurance are included.

Math 135, Basic Mathematics: Recommended for elementary education majors. Modern concepts of arithmetic and its relation to algebra and geometry. New and old symbols, bases other than ten, basic principles of addition and multiplication, the real numbers and the real number line, sets and variables, measurement, modular arithmetic. No prerequisite.

Math 136, Analytic Geometry: Coordinates and loci, the straight line, transformation of coordinates, the circle, tangents, equations of loci, parametric equations, polar coordinates, properties of the conic sections, transcendental curves. Prerequisite: Math 130 or 131 and 132.

Math 231, Calculus I: Variables, functions and limits. Derivatives and differentials for polynomials and applications. Differentiation and integration of algebraic functions. Prerequisite or co-requisite: Math 136.

Math 232, Calculus II: Differentiation and integration involving transcendental functions together with applications. Improper integrals, approximate integration, indeterminate forms, mean value theorems.

Exit Requirements

Every instructor gives approximately four tests each nine weeks. We give two nine weeks grades and a final test each counting one-third of the semester grade. However, each instructor is free to grade as he chooses. A course may be repeated, but both grades stay on the transcript. A passing grade is required.

3

Texas A&M University

College Station

Entrance Procedures

Entrance requirements to Texas A & M University may be found under Admission in the current bulletin of the University. This bulletin may be secured from the Registrar, Texas A & M University, College Station, Texas, 77840.

Entrance requirements in mathematics are as follows:

Algebra	2 units	Required of all students
Plane Geometry	1 unit	Required of all students
Trigonometry	1/2 unit	Required of all students except applicants for liberal arts and teacher education programs, who may substitute 1/2 unit of an approved elective.

Advanced placement (without credit) beyond algebra and/or trigonometry may be obtained by making scores of 600 (or higher) on the quantitative portion of Scholastic Aptitude Test (SAT) and the Standard Mathematics Achievement Test of the College Entrance Examination Board (CEEB).

Advanced standing (with credit) may be obtained in any freshman mathematics course by passing examinations prepared by the mathematics department. These examinations are given periodically during the summer by the Counseling and Testing Center, Texas A & M University. Application to take one or more of these examinations should be made directly to the Counseling and Testing Center. Sample copies of examinations may be obtained by writing the Chairman of the Mathematics Department, Texas A & M University, College Station, Texas.

All entering freshmen are welcome to attend the summer sessions. Those who are deficient in basic mathematics are especially encouraged to attend the summer session to remove that deficiency.

General Organization

The mathematics department of Texas A & M University offers several courses which are open to freshmen. The courses selected by the student will depend upon his degree requirements and his level of achievement.

The mathematics requirements for the various undergraduate curricula of the University are so varied it is impractical to list them. At least six semester hours of mathematics is required in each curriculum except physical education which requires only three semester hours. It is recommended that the prospective student obtain a bulletin and check the requirements of the curriculum of his interest.

Course Content

Math 101, Algebra: Review of fundamentals of algebra.

Math 102, Algebra: General College Algebra. Open to all students. Not required in engineering and science curricula.

Math 103, Trigonometry: Open to all students. Not required in engineering and science curricula. May be passed by advanced placement.

Math 104, Analytic Geometry: Open to all students.

Math 106, Spherical Trigonometry: Prerequisite: Mathematics 103, For students in Maritime Academy.

Math 110, Survey of Mathematics: Prerequisite: Mathematics 102 or advanced placement. For students of business.

Math 116, Plane Trigonometry and Analytic Geometry: For students of architecture.

Math 121, Analytic Geometry and Calculus: Prerequisite: Mathematics 102 and 103, or advanced placement. Required of engineering students.

Exit Requirements

The final grade in a course is determined by the instructor. Grades are based on homework, various tests and a final examination. A passing grade is required. The grading scale of the University is as follows:

A	Excellent	92-100 inclusive
B	Good	84-91 "
C	Fair	76-83 "
D	Passing	70-75 "
F	Failure	below 70

Texas Christian University

Fort Worth

Entrance Procedures

For admission Texas Christian University requires that a graduate of an accredited high school must have completed at least two units of high school mathematics. These courses must be chosen from algebra, geometry, trigonometry, analytic geometry, and advanced mathematics (analysis). Related mathematics is reckoned equivalent to algebra by a rule equating two units of related mathematics to one unit of algebra.

Entering freshmen must present the results of the College Entrance Examination Board (CEEB) verbal and qualititative aptitude tests. The results of these examinations, together with the student's high school record, are used in placing the student in an appropriate mathematics course.

Advanced placement and credit are allowed in Mathematics 1503 and 1513, Analytic Geometry and Calculus, (six semester hours total) on the basis of examinations provided by the Educational Testing Service (ETS).

Freshmen are admitted during the summer session, with admission procedures being substantially the same as those of the regular session.

A limited number of highly qualified students who have completed their junior year in high school are admitted to the summer session. These students are permitted to enroll in designated college courses on a delayed college credit basis. They may attend during the summer session, return to high school for their regular senior year, and re-enter TCU, at which time they will receive college credit for the courses successfully taken the previous summer.

Students with 3 1/2 units of high school mathematics (including trigonometry) with good grades, and quantitative CEEB aptitude scores of 650 or higher (upper 6 percent) are invited to enroll in an honors class in Math 1503, Analytic Geometry and Calculus. Students with the same background who have CEEB quantitative aptitude scores of 600 or higher (upper 16 percent) are advised to enroll in Math 1503, Analytic Geometry and Calculus. Those with CEEB scores of less than 585 (not in top 20 percent) or with indifferent school records are advised to take college algebra. Students with poor records are also advised to take the college algebra laboratory. Neither college algebra nor trigonometry may be counted toward a major or minor in mathematics.

General Organization

Texas Christian University does not require of all majors (baccalaureate degrees) definite mathematics courses. Mathematics is optional along with the sciences, to satisfy six semester hours of a 12 hour requirement in science and mathematics.

Majors in elementary education are strongly advised to take one sophomore course in mathematics: Mathematics 2053, Fundamentals of Modern Mathematics. They may also elect a "concentration" of nine semester hours in mathematics.

Majors in all fields of business are required to take either Mathematics 1253, College Algebra, or Mathematics 1503, Analytic Geometry and Calculus, and either Mathematics 1263, Analysis for Management Science, or Mathematics 1513, Analytic Geometry and Calculus, a continuation of 1503.

Majors in biology may take six semester hours chosen from Mathematics 1253, College Algebra, Mathematics 1532, Trigonometry, Mathematics 1241, College Algebra Laboratory, Mathematics 1701, Elementary Set Theory, Mathematics 1503, Analytic Geometry and Calculus, and Mathematics 1513, Analytic Geometry and Calculus.

Majors in geology, chemistry, physics, and mathematics, and students completing requirements for mathematics as a teaching field, take Mathematics 1503 and 1513, Analytic Geometry and Calculus.

Course Content

Mathematics 0400, Geometry: Designed for students with insufficient high school credit in geometry and/or solid geometry.

Mathematics 1202, Intermediate Algebra; No credit if two units of high school algebra are presented. A study of the elementary principles of algebra.

Mathematics 1071, Elementary Set Theory: Introduction to sets, relations and functions.

Mathematics 1241, College Algebra Laboratory: Applications, drill and numerical examples in the more elementary topics in college algebra.

Mathematics 1253, College Algebra: An introduction to logic, set theory, quadratic equations, and elements of matrix algebra.

Mathematics 1263, Analysis for Management Science: Introductory differential and integral calculus with applications to economics. The elements of probability. Linear programing with applications to matrix games.

Mathematics 1532, Trigonometry: Numerical and analytic trigonometry, with emphasis on the latter.

Mathematics 1503 and 1513, Analytic Geometry and Calculus: A study of the straight line, the conic sections, and polar coordinates. The derivative and the differential, the theorem of the mean (with application to indeterminate forms), integration of polynomials, approximate integration, and general graphing methods.

Mathematics 1102, Introductory Programming: Basic computer concepts and card programming for the IBM 1401 system. In laboratory, students prepare machine language and autocoder programs oriented toward business applications.

Exit Requirements

A departmental committee on the supervision of instruction exercises control over classes taught by graduate students: syllabi are provided, examinations are approved before they are to be administered, grading is supervised, and classes are monitored. A passing grade is required.

Texas College

Tyler

Entrance Procedures

Students are admitted to Texas College as freshmen and with advanced standing from other institutions, as special students, and as auditors. During orientation week, the Cooperative Mathematics Test of the Educational Testing Service (ETS) is administered for placement as well as departmental purposes. The results of these test scores are used by the student's advisor in placing him in the mathematics courses most suited to his background and ability. Cooperative Mathematics Tests are very useful to advisors of students planning to major or minor in mathematics.

During summer, remedial programs in mathematics prepare students for fall semester.

General Organization

Texas College offers four year courses leading to baccalaureate degrees in Arts and in Science in elementary education, secondary education, and home economics.

Every student is required to pursue a program of basic academic foundation in which six semester hours of mathematics is required: Mathematics 200, Basic Mathematics, and Mathematics 202, College Algebra, fulfill this requirement. A minimum of two years of academic foundations is required.

The Mathematics Club Award is offered to the student in the department of natural science and mathematics who was most outstanding in mathematics throughout the entire four years of his college career.

Course Content

Math 300, Basic Mathematics: Deals with selected topics from arithmetic and algebra with practical application.

Math 320, College Algebra: Review of the elementary operations, factoring, fractions, linear equations, exponents, radicals, inequallties, determinants, complex numbers.

Math 303, Plane Trigonometry: Covers the trigonometric functions, solution of triangles and their applications, laws of sines, cosines, and tangents. Prerequisite: Mathematics 302.

Math 310, Plane Analytic Geometry: Curve tracing and locus problems, straight line, circle, conic sections, tangents, diameters, asymptotes, parametric equations. Prerequisite: Mathematics 303.

Exit Requirements

Approximately six examinations are given in each freshman-sophomore course. Two of these a mid-semester and a final examination, are departmental examinations. Grading procedures are left entirely to the individual instructor with minor exception to have uniformity. A passing grade is required. A course may be repeated for the purpose of raising the grade. There is no limit set on the number of times a course may be repeated.

Texas College of Arts and Industries

Kingsville

Entrance Procedures

For admission, Texas College of Arts and Industries requires that a graduate of an accredited high school must have completed at least two units of high school mathematics, one of which must be algebra.

Advanced standing with credit in algebra and/or trigonometry may be obtained through an appropriate score on an Advanced Achievement Examination of the College Entrance Examination Board (CEEB).

An entering freshman, either before registration or during his first semester of residence work, will be permitted to earn college credits or advanced standing by local examinations in the following mathematics courses: Mathematics 101, Trigonometry; Mathematics 103, Analytic Geometry; Mathematics 108, College Algebra; Mathematics 205-206, Calculus.

To be eligible for such examinations, he must first show high scores on the American College Testing Program (ACT) Tests or the CEEB taken before or immediately after beginning college work.

Students whose test scores do not meet minimum requirements for registration are admitted to provisional registration during the summer session. These students are permitted to register for the fall semester provided they attend both summer terms and complete a total of twelve hours of work with a grade point average of 1.2. Students whose grade point average is at least 1.2 but less than 1.6 will register for the fall semester on scholastic probation. Students whose grade point average on the twelve hours of credit earned in summer school is 1.6 or above are permitted to register as a regular student for the fall semester.

General Organization

The mathematics department offers seven courses which are open to freshmen. Which of the courses an entering freshman will choose depends upon his degree requirements and prerequisites (obtained by advanced placement or advanced standing).

The following table details the general mathematics requirements of students within Texas College of Arts and Industries.

Requirements of Mathematics for Various Degrees (1965-66)

Division	Degree	Mathematics Requirements in Semester Hours	Comments
Agriculture	B. S.	6	
Arts and Sciences	B. A.	6	for mathematics major; 21 hours above freshman level; minor: 12 hours above freshman level
	B. S. in:		
	Biology	6	
	Chemistry	15	including analytic geometry and calculus
	Mathematics	30	21 hours above freshman level
	Physics	27	21 hours above freshman level
	Home Economics (Major in Foods and Nutrition)	3	College Algebra
Business Administration	B. B. A.	6	College algebra and trigonometry or business mathematics
Teacher Education	B. S. in secondary education	6	if area of specialization is not mathematics, substitution of foreign language is permitted
		or 24	if mathematics is area of specialization
	B. S. in elementary education	6	general requirement
		18-21	if mathematics is area of specialization
	B. S. in physical education	0	
	B. S. in agricultural education	3	Introduction to college mathematics
Enginnering	All engineering degrees	18	Analytic geometry, three hours; calculus, nine hours; differential equations, three hours; and advanced elective, three hours. An entering freshman engineering student whose current scores on ACT (or comparable CEEB) do not indicate that he can begin with analytic geometry takes college algebra and trigonometry in addition to the courses above.

Course Content

Courses open to freshmen are listed below by number and title. Further detailed descriptions may be obtained from the catalog of Texas College of Arts and Industries which is available from the Registrar, Texas College of Arts and Industries, Kingsville, Texas, 78363.

Mathematics 101, Trigonometry: Prerequisite: Two units high school algebra or Mathematics 108 or 105. (101 and 108 may be taken in parallel with satisfactory score on ACT test.)

Mathematics 103, Analytic Geometry: Prerequisite: Mathematics 108 and 101 or equivalent advanced standing.

Mathematics 105, Introduction to College Mathematics: Course not open to students with college credit in mathematics. Offered for students whose low mathematics ACT scores do not predict successful completion of 108 or 101.

Mathematics 107, Business Mathematics: Open to all students with credit or advanced placement in college algebra.

Mathematics 108, College Algebra: Prerequisite: Two years high school algebra and/or equivalent as shown on ACT test.

Mathematics 205 and 206, Calculus: Prerequisite: Mathematics 103. Entering freshmen engineering students may take 103 and 205 in parallel with high ACT score (or comparable CEEB score).

Exit Requirements

The final course grade is determined by the instructor. Every instructor requires homework and several tests, and each course has a three-hour final examination. A passing grade is required. No limit is set on the number of times a course may be repeated. If a student repeats a course, all grades earned for the course, whether passing or failing, are counted in the total grade average; however, credit value for the course may be counted only once toward a degree.

Texas Lutheran College

Seguin

Entrance Procedures

For admission, Texas Lutheran College requires that a graduate of an accredited high school must have satisfactorily completed at least two units in high school mathematics chosen from algebra, geometry, trigonometry and advanced mathematics.

Advanced standing (without credit) past college algebra and/or trigonometry may be obtained through a suitable score on the quantitative portion of the Scholastic Aptitude Test (SAT) or the College Entrance Examination Board (CEEB). Entering freshmen are encouraged to attend the summer session following their graduation from high school.

General Organization

Baccalaureate degrees in Arts, Science, and Business Administration are conferred by Texas Lutheran College. The baccalaureate degrees in Science and Business Administration require completion of six semester hours of mathematics. The baccalaureate degree in Arts requires the completion of six semester hours chosen from mathematics or philosophy. Business students usually take Mathematics 131, College Algebra, and 132, Mathematics of Finance. Most students who do not intend to take calculus take Mathematics 135, 136, Foundations of Mathematics. Students whose pre-professional programs specify algebra and trigonometry take Mathematics 137, 138, Algebra and Trigonometry. Students who need calculus take Mathematics 231, 232, Calculus with Analytic Geometry, along with supporting work from Mathematics 137, 138.

Course Content

Math 131, College Algebra: Designed for students of business as a prerequisite for Math 132. A review of operational algebra through systems of quadratic equations, exponents, radicals, logarithms, and progressions.

Math 132, Mathematics of Finance: Designed for students of business. Interest, annuities, installment payments, amortization, sinking funds, valuation of bonds and other securities and mathematics of depreciation. (Will not count toward a major or minor in mathematics).

Math 135, 136, Foundations of Mathematics: Designed for students not intending to continue with calculus. Sets, logic, mathematical systems, algebra, graphs, geometry and topology.

Math 137, 138, Algebra and Trigonometry: Designed to support the student's work in calculus. A review of operational algebra and trigonometry, exponents, radicals, logarithms, functions and graphs, inequalities, the real and complex number systems, matrices, determinants and mathematical induction.

Math 231, 232, Calculus with Analytic Geometry: Functions, graphs, limits, the derivative, maxima and minima, the integral and integration by various formal devices.

Exit Requirements

Exit Requirements for each course are left up to the instructor. A passing grade is required.

Texas Southern University

Houston

Entrance Procedures

Requirements for admission to Texas Southern University, as listed in the bulletin of the University, include the completion of two units in high school mathematics.

All entering students are required to take the American College Test (ACT) either before entrance or during the week of orientation prior to the registration period. Mathematics scores on the ACT are used by the department in its placement and guidance program. Students whose ACT scores indicate superior backgrounds in mathematics are encouraged to take the department's advanced placement tests in algebra and trigonometry. The tests are administered during pre-registration to any student requesting them. Provision is made for advanced placement, with credit, for those who pass the tests.

Honors sections of freshman mathematics courses (Mathematics 137, 138, and Mathematics 133, 134) are provided for students enrolled in the Honors Program. Special sections of college algebra and trigonometry (Mathematics 133, 134) are provided for mathematics majors.

Entering freshmen are encouraged to attend the summer institute which provides special classes and tutoring for students during the summer following their graduation from high school. Students in the institute may earn credit for Mathematics 133 or Mathematics 137. Sections of these courses not in the institute are not open to entering freshmen during the summer.

General Organization

Texas Southern University requires six semester hours of mathematics for graduation. This requirement is generally satisfied by Mathematics 137 and 138 or Mathematics 133 and 134, depending upon the major area in which the student is enrolled. Mathematics 137 and 138 are designed to equip the students with an understanding of the nature of mathematics and the importance of postulational thinking as well as the role that mathematics plays in supplying the abstract logical structures essential to advances in other areas.

The following table displays the major areas of Texas Southern University that require mathematics beyond the freshman year:

Mathematics Requirements (1965-67)

College or School	Major	Math Requirements	Hours
Arts and Sciences	Physics	Algebra (133) Trig. (134)	18

Math Requirements, Cont'd.

College or School	Major	Math Requirements	Hours
Arts and Sciences	Physics	P. A. Geom. (231) Calculus I (233) Calculus II (331) Calculus III (332)	18
Arts and Sciences	Chemistry	Algebra (133) Trig. (134) Analytic Geom. (231) Calculus I (233) Calculus II (331)	15
Arts and Sciences	Biology	Algebra (133) Trig. (134) Analytic Geom. (231)	9

Those students whose scores on the ACT test were below our cutting score were required to enroll in sections of Mathematics 137 or Mathematics 133 which met four hours per week for three semester hours credit, whereas, the other students were enrolled in a section of Mathematics 137 or Mathematics 133 which met three hours per week for the same number of credit hours.

Course Content

The department of mathematics at Texas Southern University offers the following freshman mathematics courses:

Mathematics 133, College Algebra: Designed for students who expect to major in mathematics or one of the natural or physical sciences. Sets and numbers, algebra of real numbers, inequalities and absolute value, relations and functions, complex numbers, determinants, permutations, combinations, and the binomial theorem.

Mathematics 134, Plane Trigonometry: Designed for students who expect to major in mathematics or one of the natural or physical sciences. Trigonometric functions and formulas, solution of triangles and applications.

Mathematics 137, College Mathematics I: A deductive logical structure, the algebra of numbers, numbers in exponential form, measurement and computation, functional relationship, and variations.

Mathematics 138, College Mathematics II: Rate of change of a function, exponential and logarithmic functions, periodic functions, statistical methods, and probability.

Exit Requirements

Course grades are determined by the individual instructor. Although homework is assigned, the grade for the course is determined by performance on chapter (or unit) tests and a final examination. A passing grade is required.

Any course may be repeated in either semester of the regular session or in either of the summer sessions at the University.

Texas Southmost College

Brownsville

Entrance Procedures

For admission Texas Southmost College requires that a graduate of an accredited high school must have completed at least two units of high school mathematics.

Students who have completed only one year of high school algebra are placed in the basic mathematics program, if they take a mathematics course.

If the student has completed two years of high school algebra, and has taken the College Entrance Examination Board (CEEB), Scholastic Aptitude Test (SAT), or American College Test (ACT), he is placed in college algebra or basic mathematics, according to his score on the mathematics section of these tests. If the student completed two years of high school algebra and did not take any of the college entrance examinations, we give our own algebra examination to determine whether they register for college algebra or basic mathematics.

Students who have completed two years of high school algebra, one year of geometry, one-half year of trigonometry, and one-half year of analysis and make sufficiently high scores on the CEEB test may omit the college algebra and trigonometry, and register for analytic geometry and calculus. No credit is given for courses they do not take in college.

General Organization

Students majoring in mathematics or engineering are expected to take Mathematics 113, College Algebra, Mathematics 123, Trigonometry, Mathematics 183, Analytic Geometry, Mathematics 213, Calculus I, Mathematics 223, Calculus II, and may elect Mathematics 253, Calculus III, and Mathematics 263, Differential Equations. In addition, engineering students may take Engineering 153, Engineering Drawing, and Engineering 163, Descriptive Geometry.

Most of the students that do not plan to major or minor in mathematics take Mathematics 113, and Mathematics 123. Students who register for basic mathematics may take college algebra upon completion of Mathematics 103. Basic Mathematics.

Course Content

Mathematics 103, Basic Mathematics: Credit: Three hours. For students having an inadequate background in mathematics. Arithmetic, elementary algebra, and an elementary introduction to trigonometry, number systems, axioms for mathematics, fundamental operations, algebraic techniques and application, and solutions of quadratic equations.

Mathematics 113, College Algebra: Credit: Three hours. A brief review of the fundamentals of elementary algebra, and an intensive study of the quadratic equations and simultaneous quadratic systems, ratio, proportion, variation, the binomial theorem, progressions, determinants, inequalities, graphs, logarithms, mathematical induction, permutations, combinations and probability, and theory of equations. Prerequisite: Two years of high school algebra and a satisfactory score on the mathematics section of CEEB or the department of algebra placement exam.

Mathematics 123, Trigonometry: Credit: Three hours. Trigonometric functions of all angles, fundamental relations and reduction formulas, line definition and graphs of trigonometric functions, identities, trigonometric analysis, solution of the right and oblique triangles, logarithms, inverse trigonometric functions, De Moivre's Theorem. Prerequisite: Same as for Mathematics 113, except that one year of high school geometry is prerequisite.

Mathematics 183, Analytic Geometry, Credit: Three hours. Cartesian coordinates, straight lines, curves, parabolas, ellipses, hyperbolas, circle, rotation and translation of axes, higher plane curves, polar coordinates, parametric equations, vectors. Prerequisite: College algebra and trigonometry or by advanced placement.

Mathematics 213, Differential Calculus: Credit: Three hours. The algebraic polynomials, the meaning of the derivative, applications, distances, velocities, accelerations, maxima and minima, applications to geometric problems. Integration is used in applications to areas, volumes, pressures, work, derivatives of trigonometric and inverse trigonometric functions. Prerequisite: Registration or credit for Mathematics 183.

Exit Requirements

Approximately six tests are given in each class each semester which count as fifty percent of the semester grade. Daily papers and daily tests count as twenty percent of the semester grade. The final examination, required of all pupils, counts as thirty percent of the semester grade.

Grading procedures are left to the individual instructor, and final examination grades are influenced by a course outline provided by the department chairman.

A course may be repeated for the purpose of raising the grade. When this repetition is made, the second grade shall stand as the permanent record whether or not it is an improvement over the first grade received in the course.

Texas Technological College
Lubbock

Entrance Procedures

General requirements for entrance to Texas Technological College are set forth in the General Catalog of the college. This catalog and a bulletin entitled, "Information for Entering Students", are available from the Registrar, Texas Technological College, Lubbock, Texas 79409. The differing minimum unit requirements in mathematics required for entrance to various schools are listed below.

School	Units Required	Courses Required
Arts and Sciences	2 (with exceptions noted below. Hereafter referred to as general requirement.)	Chosen from accredited list, excluding arithmetic, and consumer mathematics, with 2 credits in related mathematics accepted as one credit in algebra.
	3* (for mathematics, chemistry, and physics majors)	Algebra, geometry, and trigonometry
Agriculture	2	Same as general admission requirement.
Business Administration	2	Same as general admission requirement.
Engineering	3*	2 in algebra, 1 in geometry, 1/2 in trigonometry (exception: Architechtural design option requirements are same as for general admission requirement)
Home Economics	2	Same as general admission requirement.

*Deficiencies may be removed with algebra and/or trigonometry taken for college credit. Such credit may not be used to satisfy degree requirements. Entering freshmen are encouraged to take such courses in summer school immediately following their graduation from high school.

Locally prepared examinations in algebra and/or trigonometry for advanced standing (with credit) are available to students who present Level I Math College Entrance Examination Board (CEEB) scores of 590, or more, providing these courses are included in their curriculum. Satisfactory scores in nationally prepared examinations are required of students desiring advanced standing in the analytic geometry and calculus sequence. Students presenting

Level I math scores of 590 or above are allowed to enroll immediately in analytic geometry and calculus. Proper placement for other students is determined from consideration of both the Level I math scores and high school math credits presented by these students.

General Organization

The mathematics department of Texas Technological College offers a variety of courses open to freshmen. In most non-mathematics oriented departments the mathematics requirements range from 0-6 semester hours. Often any combination of freshman level mathematics courses will satisfy the six hour requirement, but courses in college algebra and trigonometry occasionally are specified. The B. A. degree in the arts and sciences school requires six semester hours of students entering with two units of high school mathematics while only three hours are required of students with two units of high school algebra and one unit of geometry. No college mathematics is required of students entering with two units of algebra, one unit of geometry, and one-half unit of trigonometry.

Departments with requirements in excess of those named above are included in the following table:

Department	Degree	Math Requirements in hours	Comments
Agricultural Engineering	B. S. in Agricult. Eng.	18	Analytic geometry and Calculus I, II, III, IV and six hours of higher mathematics for engineers.
Chemistry	B. S.	9	Analytic geometry and Calculus I, II, III.
Geology	B. S. (5 options)	9-24 (depending upon option)	Includes algebra and trigonometry (only three hours of analytic geometry and calculus required in paleontology. option).
Mathematics	B. A.	33	18 hours advanced (analytic geometry and Calculus IV, and above).
	B. S.	36	Exclusive of college algebra and trigonometry; freshman year includes elements of mathematical systems and linear algebra.

Department	Degree	Math Requirements in hours	Comments
Mathematics	B. S. in education teaching field secondary level	27	Includes a three hour methods course.
	B. S. in education academic specialization in math	18-24	18 hours for Plan I, calculus not required; 24 hours for Plan II, calculus required.
Physics	B. S.	24	Exclusive of college algebra and trigonometry.
	B. S. in Engineering Physics	24	Same as above
Architecture	B. S. in Arch. (Construction option)	12	Analytic geometry and Calculus I, II, III, IV.
Chemical Engineering	B. S. in Chemical Engineering	18	Analytic geometry and Calculus I, II, III, IV and six hours of higher mathematics for engineers.
Civil Engineering	B. S. in Civil Engineering	18	Same as above
Electrical Engineering	B. S. in Electrical Engineering	18	Same as above
Mechanical Engineering	B. S. in Mechanical Engineering	18	Same as above
Petroleum Engineering	B. S. in Petroleum Engineering	18	Same as above
Textile Engineering	B. S. in Textile Engineering	18	Same as above

Department	Degree	Math Requirements in hours	Comments
Textile Technology	B.S. in Textile Technology	12	Algebra, trigonometry, and one semester of analytic geometry and calculus.

Course Content

When the title of a given course is sufficiently descriptive, neither the content nor the objective is outlined in detail.

Math 131, Trigonometry: Prerequisite: High school geometry. Students with high school credit in trigonometry are not encouraged to take this course for college credit.

Math 133, College Algebra: Prerequisite: Two units of high school algebra plus a Level I test score of above 400.

Math 135, Introductory College Mathematics: Number sets and operations, algebraic structures and elementary functions. Required of all elementary education majors and recommended for other students needing three hours of mathematics to satisfy general degree requirements.

Math 136, Elements of Mathematical Systems: Prerequisite: One course in college mathematics or consent of instructor. The logic of mathematics, set theory, axiom systems. Required of mathematics majors and recommended for students majoring in the biological and social sciences as well as for those majoring in the physical sciences; may be used to satisfy general degree requirements.

Math 137, 138, Introductory Mathematical Analysis: Inequalities, linear systems and linear programing, probability, progressions and an introduction to analytic geometry and the calculus. Designed primarily for business majors, but may be used as three to six hours toward satisfying general degree requirements.

Math 139, Analytic Geometry and Calculus I: Prerequisite: Satisfactory placement test scores or college algebra. Introduction to analytic geometry, functions, derivatives, limits.

Math 231, Analytic Geometry and Calculus III: Prerequisite: Math 139. Additional topics in analytic geometry, integration, transcendental functions.

Math 232, Analytic Geometry and Calculus III: Prerequisite: Math 231. Additional topics in analytic geometry, applications of calculus, infinite series, vectors.

Math 233, Linear Algebra: Prerequisite: College algebra or its equivalent. Finite dimensional vector spaces, linear transformations and matrices, eigenvalues and eigenvectors, and vector spaces over complex numbers. Required of mathematics majors and recommended for others planning to continue the study of mathematics at an advanced level.

Exit Requirements

The instructor is responsible for the assignment of a course grade for each student in his section. College policy requires that a minimum number of tests equivalent to a four-hour total to be given during the semester in addition to a final examination. Normally the course grade is determined as follows: 10-15 percent on homework, 60 percent on tests given during the semester and 25-30 percent on the final examination. No limit is set upon the number of times a course may be repeated other than the general limit set for continuance in the college.

Texas Wesleyan College

Fort Worth

Entrance Procedures

For admission, Texas Wesleyan College recommends that a graduate of an accredited high school must have completed at least two units of high school mathematics.

Scores on the American College Tests (ACT) and the record of high school work are the bases used by the freshman advisors in placing the student in the mathematics course best suited to his ability and needs.

A student with a strong high school background in mathematics and a high score in mathematics on the ACT may, upon request, take an advanced placement examination which is administered at Texas Wesleyan. Two examinations are available, one in college algebra and one in trigonometry. Upon satisfactory completion of both these examinations a student may enter directly into analytic geometry and calculus.

Freshmen are admitted in the summer session under the same conditions as for the long session.

General Organization

Baccalaureate degrees in Arts, Science, Music, and Business Administration are conferred by Texas Wesleyan College. The baccalaureate degree in Science requires the completion of at least fourteen semester hours to be chosen from mathematics and laboratory science. The baccalaureate degrees in Music and Arts do not require any mathematics. The baccalaureate degree in Business Administration requires the completion of three semester hours of mathemtics. Many students who do not plan to major or minor in mathematics satisfy three semester hours of the mathematics requirement by taking Mathematics 310.

Course Content

Mathematics 310, Intermediate Algebra: Primarily for those students who are not prepared for college algebra. Number systems, fundamental operations, the development of algebraic concepts, linear equations; quadratic equations, functions and graphs, ratio, proportion, and variation.

Mathematics 311, College Algebra: Quadratic equations, ratio and proportion, variation, progressions, binomial expansion, inequalities, complex numbers, permutations and combinations, elementary theory of equations, determinants.

Mathematics 312, Trigonometry: The trigonometric functions, logarithms, solutions of right triangles, trigonometric relations, identities and equations, solutions of oblique triangles, inverse trigonometric functions.

Mathematics 323, Analytic Geometry: Prerequisite: Mathematics 311, 312. The straight line, circles, parabolas, hyperbolas, ellipses, translation and rotation of axes, rectangular and polar coordinates, three-dimensional problems.

Mathematics 325, Mathematics of Finance: Prerequisite: Six hours of mathematics. A study of problems of finance such as annuities, bonds, sinking funds, life insurance.

Mathematics 327, Differential Calculus: Prerequisite: Mathematics 323. The derivative, differentials, functions and limits, continuity, trigonometric functions, inverse trigonometric functions, exponential and logarithmic functions.

Exit Requirements

A mid-semester and a final examination are given in all mathematics courses. Additional testing and grading procedures are left to the individual instructor. None of these examinations are departmentalized.

A course may be repeated for the purpose of raising the grade. No limit is set on the number of times a course may be repeated other than the general limit set for continuance in the college.

Texas Western College

El Paso

Entrance Procedures

Admission to Texas Western College is open to the graduate from an accredited high school who presents 16 acceptable units and who has shown an aptitude for college studies through the College Entrance Examination Board Scholastic Aptitude Test (CEEBSAT). This test is required to entering freshmen. If the student is in the upper half of his graduating class, a minimum conbined score of 700 on the CEEBSAT is required. If the student is in the lower half of his graduating class, a minimum combined score of 800 on the CEEBSAT is required.

Admission to the School of Arts and Sciences requires a minimum of two units of high school mathematics. Admission to the School of Engineering requires a minimum of 3½ units of high school mathematics, designated as algebra, 2 units; geometry, 1 unit; trigonometry, ½ unit.

Advanced placement, without credit, past college algebra and/or trigonometry may be obtained by the student who attains a minimum score of 600 on the mathematics portion of the CEEBSAT. Advanced standing, with credit, in college algebra and/or trigonometry may be obtained by a grade of not less than B on an advanced standing test prepared by the department. These tests are administered during the freshman orientation programs. The student must initiate his request to take an advanced standing test with the chairman of the mathematics department at least four days before the date on which the test is to be administered.

High school graduates who fail to qualify for admission due to scores on CEEBSAT may be enrolled as provisional students in the spring semester or in the summer. A provisional student who enters in the spring term must earn not less than nine semester hours of credit during that term with an average grade of C in all courses taken. A provisional student who enters during a summer session must earn not less than six semester hours credit during that session with an average grade of C in all courses taken. Courses selected to fulfill the above requirements must have the approval of the student's academic dean.

General Organization

The freshman mathematics program is organized to fit the needs of incoming students according to two general classifications. Those students whose degree requirements include the calculus are required to take Mathematics 3115, College Algebra, and Mathematics 2116, Trigonometry. Generally speaking, this includes those students who major in mathematics, science, or engineering. Other eligible students may elect to take this route if they desire. Students other than those mentioned above usually fulfill the degree requirements by taking Mathematics 3101 and 3102, Introductory Mathematics.

This latter route does permit a student to take some advanced course work in mathematics but cannot be used to fulfill the requirements of a major in mathematics, science, or engineering. At least six hours of mathematics are required in every degree program at Texas Western College except those programs leading to baccalaureate degrees in Science in education and in Music. The education program has an option which permits 12 semester hours selected from two of the three areas of science, mathematics, or foreign language. The music program does not require any mathematics; however, a candidate who wishes to satisfy the requirements for an all-level teaching certificate in music must meet the mathematics requirement outlines for the baccalaureate degree in Science. Mathematics above this level is required only of those students who major in mathematics, science, engineering, or who elect mathematics as a teaching field.

Course Content

Mathematics 3101 and 3102, Introductory Mathematics: Designed for the non-science major. Nature of proof, the number system, elementary algebra, the algebra of sets, inequalities, introductory work in coordinate geometry, trigonometry and statistics.

Mathematics 3115, College Algebra: Quadratic, exponential, and logarithmic functions, determinants, systems of linear and quadratic equations, mathematical induction and the binomial theorem.

Mathematics 2116, Trigonometry: Nature and properties of the trigonometric functions, fundamental identities, and analytical aspects of trigonometry.

Mathematics 4111, Analytic Geometry and Calculus (First Course): A study of the elementary properties of functions, limits, continuity, the derivative, and the definite integral. Prerequisites are Mathematics 3115, College Algebra, and Mathematics 2116, Trigonometry, or advanced placement. This course is usually followed by two additional four semester hour courses in analytic geometry and calculus.

Exit Requirements

The instructor has the responsibility for the determination of grades in a course. A senior faculty member consults with part-time instructors and teaching assistants as is necessary to assure uniformity. The student should expect at least four examinations and a final examination. Final examinations are required of all students. No limit is set on the number of times a student may repeat a course so long as he remains eligible for enrollment in the college. If a student repeats a course, the official grade is the last one made. The student's cumulative grade point average is determined by dividing the total number of grade points earned by the total number of hours attempted in this college.

Texas Woman's University

Denton

Entrance Procedures

General entrance requirements are set forth in the catalog of Texas Woman's University, a copy of which may be obtained by writing to Dean of Admissions-Registrar, Drawer A, TWU Station, Denton, Texas, 76204. Each student must present two units in mathematics, at least one of which must be in algebra. Beginning in 1967, two units of algebra or one of algebra and one of geometry will be required.

All freshmen must take the American College Test (ACT) before entering. The results of this test, the high school record, and an interview are used by the advisor in determining proper selection of courses. There is an honors section of freshman mathematics.

A freshman may take the beginning course in analytics and calculus if suitable courses have been taken in high school with satisfactory results. Further advanced placement may be achieved by means of the Educational Testing Service (ETS) examinations.

Freshmen are admitted during the summer with the same procedures.

General Organization

Freshmen who are interested in mathematics take a course in elementary analysis unless they have had a similar course in high school. If such a course has been taken, a student is placed in analytics and calculus, but does not receive credit for the freshman course. For those who are majoring in the humanities and wish to take only one course in mathematics, a terminal course called Introduction to Mathematics is provided. College algebra, as a separate course, is being phased out. No course in trigonometry is given, but the essestials are included in the analysis course.

The only department in the College of Arts and Science, other than the department of mathematics, requiring mathematics beyond the freshman courses are the departments of chemistry and physics. Majors in chemistry are required to take 18 semester hours of mathematics. Students majoring in physics take 24 semester hours. The school of physical therapy requires mathematics through the first four-hour course in analytics and calculus.

Course Content

Mathematics 131A and 131B, Elementary Analysis: These courses are primarily for mathematics majors and minors. Elements of set theory; introduction to matrix algebra, polynomials, rational and algebraic functions; exponential, logarithmic, and trigonometric functions;

and introduction to analytic geometry.

Mathematics 134, College Algebra: Functions and graphs, systems of equations and determinants, concept of a matrix, exponents, radicals, scientific notation, complex numbers, quadratics, progressions, mathematical induction, binomial theorem, permutations, conbinations, probability, theory of equations.

Mathematics 135A and 135B, Introduction to Mathematics: This course is designed primarily for students majoring in the humanities. The real number system, topics from algebra, trigonometry, Euclidean geometry, analytic geometry, and an introduction to the calculus of polynomials.

Mathematics 241 and 341, Analytics and Calculus: Analytic geometry, limits, continuity, differentiation of algebraic functions, antiderivatives, the definite integral, differentiation of transcendental functions, advanced formal integration, and applications of the calculus.

Exit Requirements

The determination of the exact material covered, the number and type of quizzes, and the type of the final examination is left to the individual instructor.

A course may be repeated, but the later grade supersedes the earlier one, no matter which is higher.

Trinity University

San Antonio

Entrance Procedures

For admission, Trinity University requires that a graduate of an accredited high school must have completed at least two units of high school mathematics selected from algebra, geometry, solid geometry, trigonometry or advanced pure mathematics.

Each entering freshman is required to take the College Entrance Examination Board Scholastic Aptitude Test (CEEB-SAT). The results of this test and the student's high school record are used by the mathematics department to recommend to the student the proper mathematics course. Admission to the engineering science program requires the Level I Mathematics Achievement Test of the CEEB in addition to the CEEB-SAT and Writing Sample or English Achievement Test.

Entering freshmen who have taken accelerated or advanced placement courses and who pass the CEEB Advanced Placement Program final examination in any field with a grade of 5, 4, or 3 will receive college credit. Placement may be granted upon the recommendation of the director of admissions, and appropriate grades and semester hours of credit will be recorded on the student's permanent record. No hours of credit or grades will be recorded for any advanced placement program rating lower than 3.

Freshmen are admitted during the summer session with admission procedures being the same as those of the regular session.

General Organization

Every student who graduates from Trinity University must have completed three hours of mathematics or three hours of logic as part of our basic curriculum.

The mathematics major must complete 32 hours of mathematics excluding college algebra and trigonometry. The degree requirements in mathematics for other departmental majors varies from six to twenty hours.

Course Content

Mathematics 301 and 304, Introduction to College Mathematics: These courses are designed primarily for those students majoring in the arts or humanities. An introduction to logic, sets, elementary algebra and trigonometry, functions, introduction to limits, differentiation and integration of polynomials. These courses are open to any student entering Trinity University.

Mathematics 302, College Algebra: Exponents, factoring, solutions of equations, binomial theorem, and determinants.

Mathematics 303, Plane Trigonometry: Trigonometric functions, solutions of right and oblique triangles, trigonometric identities and equations, graphs of trigonometric functions, and complex numbers. A student must have either high school credit for trigonometry or receive credit for Mathematics 303 before entering Mathematics 310.

Mathematics 310, Plane Analytic Geometry: A discussion of the straight line, the conic sections, graphing of various functions, rotation and translation of axes. Freshmen are required to have four units of high school mathematics to take this course.

Mathematics 311, Calculus: An introduction to the study of functions, limits, continuity, and differentiation and integration with applications. This course is often taken with Mathematics 310 by beginning freshmen who are mathematics, physics or engineering science majors.

Mathematics 513, Analysis I: An accelerated course in analytic geometry and differential and integral calculus for selected students. These students are selected from those who have four units of high school mathematics including some calculus, the highest CEEB scores, and an interest in science or mathematics. This course is open only to freshmen.

Exit Requirements

The final course grade is determined by the instructor. A student who fails a course at Trinity University and then elects to repeat that course must do so at Trinity University.

No limit is set on the number of times a course may be repeated other than the general limit for continuance in Trinity University.

Tyler Junior College

Tyler

Entrance Procedures

Tyler Junior College requires graduation from a standard high school, with at least fifteen units of high school credit, including three units in English, but with no set requirement as to mathematics credits.

A mathematics test is given in May to high school seniors who wish to go directly into analytic geometry and calculus. If a satisfactory score is made, students go directly into analytic geometry and calculus. If not, they are required to take Mathematics 113A, College Algebra, and Mathematics 113B, Trigonometry, and they are advised to take these courses during the summer preceding their freshman year. Students who are required to take college algebra and trigonometry must present a grade no lower than B in algebra and no lower than C in trigonometry in order to be permitted to take analytic geometry and calculus concurrently.

Freshmen are admitted during the summer session, with admission procedures being the same as those of the regular session.

General Organization

An associate degree in Arts is granted students who have completed liberal arts or pre-professional requirements for graduation (in accordance with the degree plan of the institution to which they will transfer). There is no fixed mathematics requirement, but most liberal arts and business administration students take at least six hours of mathematics; Mathematics 113 or 113A, College Algebra, followed by Mathematics 113B, Trigonometry, or Mathematics 123, Mathematics of Finance.

Students who are majoring in mathematics, physics, or engineering take Mathematics 123A, Analytic Geometry, and Mathematics 213, Calculus, either first or second semester as previously outlined. If these courses are taken during the first semester of his freshman year, the student takes Mathematics 223A, Calculus, the second semester.

Course Content

Mathematics 113, College Algebra: A course primarily for liberal arts and business administration majors. Sets and numbers, field axioms, inequalities, relations, linear and polynomial functions, variations, determinants, binomial theorem, progressions. There is no prerequisite for this course.

Mathematics 113A, College Algebra: Sets, functions, exponents, polynomials and elementary theory of equations, systems of equations solved by matrix methods, inequalities, mathematical induction, progressions, binomial theorem, inverse functions (principally logarithmic and exponential). One and one-half years of algebra is a prerequisite for this course.

Mathematics 113B, Trigonometry: Angular measure, functions of angles, identities, solution of triangles, equations, inverse functions, complex numbers. May be taken concurrently with Mathematics 113A.

Mathematics 123A, Analytic Geometry: Cartesian coordinates, the straight line, the circle, conic sections, transformation of coordinates, polar coordinates, parametric equations, transcendental and higher plane curves. Prerequisite: Mathematics 113A, 113B or satisfactory score on mathematics test.

Mathematics 213, Calculus: Variables, functions and limits, differentiation of algebraic and transcendental functions with applications, differentials, mean value theorem, integration of algebraic functions with applications. Prerequisite: Mathematics 123A or concurrent registration.

Mathematics 223A, Calculus: Methods of integration, applications, approximate integration, improper integrals, indeterminate forms, vectors and curvilinear motion, infinite series, an introduction to multiple integrals. Prerequisite: Mathematics 213.

Exit Requirements

Approximately five hour quizzes, and a final examination, are given in each course. The student's grade for the semester is made up as follows: Five hour quizzes - 500; two problem averages - 200; final examination - 300; making a total 1000 points possible.

University of Dallas

Dallas

Entrance Procedures

The general requirements for admission to the freshman class include graduation from an accredited secondary school, ranking in the upper half of the student's class, the submission of scores of the College Entrance Examination Board Scholastic Aptitude Test (CEEB-SAT) or the American College Testing Program (ACT) taken during the senior year, and the presentation of 16 units of specified high school work including three units in mathematics. (Applicants whose records vary from this have to obtain special clearance from the admissions committee.) Freshmen are admitted to summer sessions.

General Organization

To fulfill the requirements for the baccalaureate degree in Arts, a student at the University of Dallas has to earn (among other things) six credits in art, music, or mathematics (taking complete courses rather than one semester of a two-semester course), and must satisfy the requirements of a major program.

Students majoring in mathematics have to take 34 credits in mathematics and earn a minimum of 56 credits in mathematics, biology, chemistry, and physics courses. Physics majors take a minimum of 16 credits in mathematics, while biology and chemistry majors take a minimum of 12 credits in mathematics. The amount of mathematics taken by education majors depends upon the area of specialization.

All students enrolling in college mathematics for the first time take the course called Basic Concepts of Mathematics (Math 111, 112). The pronounced aim of this course is to give everybody venturing into college mathematics a comprehensive view of the various branches of mathematics. While it serves as a terminal course, it also gives the student the opportunity to go on taking additional courses in mathematics without being penalized for starting with a "terminal" course. This course is followed by our Mathematics 211, 213, Elements of Real and Complex Analysis, containing calculus of real and complex functions and differential equations.

Course Content

Mathematics 111-112, Basic Concepts in Mathematics: Historical development of numbers (including transfinite numbers), differential calculus, computer programing, abstract algebra, symbolic logic, probability, linear algebra, geometry, and infinitesimal calculus.

Mathematics 01, Trigonometry: Non-credit course. Two lectures per week.

Mathematics 02, Analytic Geometry: Non-credit course. Two lectures per week.

University of Houston

Houston

Entrance Procedures

Applicants may be considered for admission to the undergraduate divisions by graduation from an accredited high school, as a college transfer student, or by entrance examination.

A high school graduate with a minimum of 16 units may expect to be admitted provided he meets the requirements indicated below. Total score indicated is the sum of the verbal and mathematical scores of the College Entrance Examination Board Scholastic Aptitude Test (CEEB-SAT):

Rank in High School Graduating Class	Minimum Total Score for Admission
Highest Quarter	700
Second Quarter	800
Third Quarter	950
Lowest Quarter	1000

No specific unit requirement of mathematics is made.

A non-graduate of an accredited high school who is at least twenty-one years old may be considered for admission by scoring 1000 on the CEEB-SAT.

Advanced placement and credit will be allowed in each calculus course, as well as any course prerequisite to calculus. Tests are administered by the counseling and testing service at this university. These tests are scheduled at regular intervals and arrangements should be made through that office.

Freshmen are admitted during the summer session with admission procedures being the same as those of the regular session.

General Organization

The mathematics department of the University of Houston offers a wide range of courses open to freshmen. Algebra and trigonometry are offered to those students who need them as prerequisites for other courses or to satisfy mathematics requirements in certain disciplines. A pre-calculus course is offered for those students who have no need of further courses in algebra and trigonometry, but are not ready for an integrated calculus-analytic geometry course. The calculus sequence of three courses initiates at the freshman level with selected freshman students being allowed to register for the second or third calculus course.

An honors section of calculus is offered for those students who, on the basis of tests and personal interview, show unusual promise and ability.

Requirements of Mathematics for Various Degrees (1965-66)

College or School	Degree	Math Requirements in semester hours	
Architecture	B. Arch.	9	for five year student: algebra, trigonometry and three hours
Arts and Science	B. A.	6	for mathematics major: 24 hours above sophomore level
	B. S. Chemistry	6	including two semesters of calculus
	B. S. Geology	6	including two semesters of calculus
	B. A. Physics	18	
	B. S. Physics	21	nine must be advanced
Business Administration	B. B. A.	6	may take algebra and trigonometry
Education	B. S.	12	may take math or science
Engineering	B. S.	9	two semesters of calculus
Optometry	B. S.	6	algebra and trigonometry
Pharmacy	B. S.	6	algebra and trigonometry

Course Content

MTH. 131, College Algebra: Designed for general education, emphasizing the theoretical aspects of algebra; open to all students.

MTH. 132, Trigonometry: Description comparable to that for MTH. 131.

MTH. 171, Introduction to College Mathematics: Designed as a pre-calculus course to introduce notions which will be of use in the calculus; open to all students who have had one and one-half units of high school algebra.

MTH. 172, Calculus I: Designed to emphasize the theoretical aspects of calculus and is a unified course of analytic geometry and calculus.

MTH. 172H, Calculus I: An honors course with description similar to that of MTH. 172.

Exit Requirements

The final course grade is determined by the instructor, but in courses with a coordinator, the coordinator furnishes guidelines. In addition to homework and several tests, each course has a final examination. The student is required to pass the final examination to receive credit for the course. No limit is set on the number of times a course may be repeated other than the general limit set for continuance in the University of Houston.

University of St. Thomas
Houston

Entrance Procedures

General entrance requirements are described in the school's bulletin, available from the registrar upon request. In evaluating students who apply for admission, preference is given those who present two or more units of mathematics that include algebra and geometry. All students who specify mathematics as a major or a career involving computers are counseled by a professor of the mathematics department.

Placement is made after considering both the student's high school record and the Scholastic Aptitude Test (SAT) scores (or those of a comparable test). Students may qualify for Calculus I by scoring above the 40th percentile on a standardized Analytic Geometry Test. If they score above the 70th percentile level, they are given credit in analytic geometry upon completion of Calculus I. Exceptional foreign students and high school students of unusual promise may take a standardized calculus test to qualify for advanced placement to Calculus II, Calculus III, or junior level mathematics. Tests for advanced standing are administered by the mathematics department. Students who are placed in Calculus II, or above that level, are given credit for six hours of mathematics in addition to the course that is completed. The physics department recommends that its majors take both analytic geometry and Calculus I in the first semester, unless they qualify for advanced placement. Beginning in the fall of 1966, no student will be admitted to this sequence at any level without credit in trigonometry from a high school or another college as trigonometry will no longer be offered at St. Thomas.

Elementary Statistical Methods, Algebra for Computation, Computer Programing, and Elementary Fundamentals of Mathematics are open to students who do not plan to study advanced mathematics. No particular mathematical preparation in high school or college is demanded of students who register for any of these four courses.

Freshmen are admitted to the summer sessions according to procedure that prevails during other sessions.

General Organization

Freshmen choose mathematics courses after consulting an advisor from the department of their major, or from a department related to their specialty. Choice of mathematics courses is based on departmental requirements, student background in mathematics, and the student's preference.

Although the University has no degree requirement for mathematics, various departments do. Elementary education majors are required to take three semester hours of mathematics. The departments of biology, economics, and sociology require six semester hours. The chemistry department requires nine hours of calculus. The physics department requires nine semester hours of calculus and differential equations. The mathematics department requires 18 hours of mathematics beyond the sophomore level.

All the mathematics courses are taught by full-time professors of the University.

Course Content

Mathematics 131, College Algebra: For students majoring in physical science or mathematics who need to strengthen their background in mathematics.

Mathematics 133, Elementary Statistical Methods: Begins a terminal sequence for general education.

Mathematics 134, Algebra for Computation: Concludes a terminal sequence begun with Mathematics 133. Number systems, algorithms for numerical methods, flow charts, computers, computer programs, and data processing.

Mathematics 135, Plane Analytic Geometry: Beginning course for students with average high school background in mathematics who major in physical science or mathematics.

Mathematics 138, Elementary Fundamentals of Mathematics: For elementary education students. Structure of the real number system, number bases, sets, logic, and basic concepts of algebra.

Mathematics 221, 222, Programing Digital Computers: An elective course for careers strongly influenced by computers. Two lectures and two hours of laboratory work each week. A computer is used during laboratory periods. The first semester is devoted to instruction and practice using an interpretive language and the second semester uses compiler languages.

Mathematics 231, 232, 233, Calculus I, II, and III: These courses cover analysis up to differential equations and emphasize theoretic mathematics. Solid analytic geometry is included in Calculus III.

Exit Requirements

No departmental examinations are given. The procedure for determining course grades is decided by the professor. A passing grade is required. In general, homework, classwork, quiz grades, attendance, and the final examination are considered in the determination. Students who receive a grade of D in the sequence that begins with college algebra and continues through Calculus III may not proceed with the sequence until the course in which the D was obtained is repeated and a better grade is attained.

The University of Texas

Austin

Entrance Procedures

General entrance requirements of The University of Texas are set forth in the General Information catalog of the University. This catalog, as well as those for specific colleges and schools, is available from the Registrar, The University of Texas, Austin, Texas, 78712. The differing minimum unit requirements in mathematics which are required for entrance to the various schools and colleges (valid for the 1965-66 academic year) are listed below.

Entrance Requirements in Mathematics

College or School	Units Required	Courses Required
Arts and Sciences, Fine	2	chosen from accredited list, excluding arithmetic, general mathematics, consumer mathematics, with two credits in related mathematics accepted as one credit of algebra
Arts, Education, Pharmacy	2	
Business Administration	3	2 in algebra, 1 in geometry
Engineering	4	2 in algebra, 1 in geometry $\frac{1}{2}$ in trigonometry, $\frac{1}{2}$ in advanced mathematics
Architecture	$3\frac{1}{2}$	2 in algebra, 1 in geometry $\frac{1}{2}$ in solid geometry
	or 3	2 in algebra, 1 in unified geometry

Advanced standing (with credit) in college algebra and/or trigonometry may be obtained through an appropriate score on an advanced standing test. Sample questions may be obtained by writing to the Chairman, Department of Mathematics (University address given above). Tests are administered during each of several summer freshman orientation programs and during preschool orientation preceding the beginning of the fall semester. Advanced placement (without credit) past college algebra and/or trigonometry may be obtained through a score of 600 (or more) on the quantitative portion of the Scholastic Aptitide Test (SAT) of the College Entrance Examination Board (CEEB).

Entering freshmen are encouraged to attend the summer session of the University following their graduation from high school.

General Organization

The mathematics department of The University of Texas offers a wide range of courses which are open to freshmen. Course selection depends on individual tastes, degree requirements and prerequisities (obtained by advanced placement or advanced standing).

The following table details the mathematics requirements of students within The University of Texas.

Requirements of Mathematics for Various Degrees (1965-66)

College or School	Degree	Mathematics Requirement in semester hours	Comments
Architecture	B. Arch.	6	for 6 year student: Analytic geometry and first half of calculus
		9	for 5 year student: algebra, trigonometry, analytic geometry
Arts and Sciences	B. A.	6	for mathematics major: 24 above freshman level for mathematics minor: 12 above freshman level
	B. S. in Architectural Studies	6	analytic geometry and first half of calculus
	Chemistry	12	including analytic geometry and calculus
	Geology	6	including calculus
	Home Economics	3	
Medical Technology		6	college algebra and three other hours
	Physics	24	
Business Administration	B. B. A.	6	some major subjects require more than this general requirement

Requirements for Degrees (Cont'd)

College or School	Degree	Math Requirements in hours	Comments
Communications	B. J. B. S. in Radio-Television-Film B. S. in Speech	6	a substitution of Latin or Greek is permitted
Education	B. S. in Secondary Education	6	if area of specialization is not mathematics--and a substitution of foreign language is permitted
		or 24	if mathematics is area of specialization
	Elementary Education	6	general requirement
		18-21	if mathematics is area of specialization
	Physical Education	6	a substitution of a foreign language is permitted
Engineering			all engineering degrees require a basic 12 semester hours: analytic geometry, calculus, differential equations. They all assume the equivalent of college algebra and trigonometry as part of the student's entrance background.
Aerospace Engineering	B. S. in Aerospace Engineering	15	
	B. S. in Architectural Engineering	12	
	B. S. in Chemical Engineering	12	
	B. S. in Civil Engineering	12	
	B. S. in Electrical Engineering	12	
	B. S. in Mechanical Engineering	15	
	B. S. in Petroleum Engineering	15	
	Bachelor of Engineering Science	18	
Fine Arts	All degrees	0	
Pharmacy	B. S.	6	

Course Content

Only when the title or objective is not sufficiently explicit is any comment on the content or objective made.

Only one of the following may be counted:

Mathematics 301, College Algebra: Designed for general education, emphasizing the theoretical aspects of algebra; open to all students whose degree requirements do not specifically name another course.

Mathematics 301E, College Algebra: Designed for pre-engineers, open to all.

Mathematics 301F, College Algebra with Applications in Business and Economics: Designed for business administration students, open to all students whose degree requirements do not specifically name another course.

Mathematics 303, Mathematics of Modern Business: Mathematics of interest, bonds, annuities, depreciation, and so forth; open to all students with cerdit or advanced placement in college algebra.

Only one of the following may be counted:

Mathematics 304, Plane Trigonometry: Description comparable to that for Mathematics 301.

Mathematics 304E, Trigonometry: Description comparable to that for Mathematics 301E.

Only one of the following may be counted:

Mathematics 204F, Introduction to Computer Programing: Emphasis on computer programing; open to students with credit or advanced placement in college algebra and trigonometry.

Mathematics 304G, Introduction to Computer Science: Emphasis on the development and uses of computers for a variety of problem situations; open to students with credit or concurrent registration in calculus.

Mathematics 304K, Number analysis: Designed for students registered under Plan II for the B. A. degree in the College of Arts and Sciences, open to all students whose degree requirements do not specifically name another course.

Only one of the following may be counted:

Mathematics 305, Analytic Geometry: Designed for general education, emphasizing the theoretical aspects of analytic geometry; open to all students with credit or advanced placement in college algebra and trigonometry whose degree requirements do not specifically name another course.

Only one of the following may be counted:

Mathematics 608E, Calculus with Analytic Geometry: A unified course of analytic geometry and the first half of calculus; open to all students with credit or advanced placement in college algebra and trigonometry whose degree requirements do not specifically name another course.

Mathematics 808E, Calculus with Analytic Geometry: An honors course with description similar to that of Mathematics 608E.

Mathematics 613, Calculus: Designed to emphasize the theoretical aspects of calculus; open to all students with credit in analytic geometry whose degree requirements do not specifically name another course.

Mathematics 613E, Calculus: Designed for engineers, treating both the theoretical and applied apsects of calculus; open to all students whose degree requirements do not specifically name another course.

Exit Requirements

The final course grade is determined by the instructor, but in courses with a coordinator, the coordinator furnishes guidelines. In addition to homework and several tests, each course has a final examination. The student is required to pass the final examination to receive credit for the course. No limit is set on the number of times a course may be repeated other than the general limit for continuance in the University.

The Victoria College
Victoria

Entrance Procedures

For admission, Victoria College requires that a graduate of an accredited high school have the following acceptable units:

a. To degree curricula other than engineering and sciences--
   Two units in mathematics (taken from Algebra I, Algebra II, plane geometry, solid geometry-one-half unit, or one-half unit trigonometry)

b. To engineering, physics, or chemistry curricula--
   Two units in algebra, one unit in plane geometry, one-half unit in trigonometry, and one-half unit in solid geometry (required by some senior colleges and highly recommended).

General Organization

All mathematics courses are offered for students at the freshman and sophomore level with the exception of Mathematics 311, Introduction to the Number Systems, and Mathematics 312, Introduction to Modern Mathematics, which are frequently taken by elementary and secondary school teachers.

The courses chosen by students depend primarily upon the requirements of the senior college or university which they hope to attend. There is no specific mathematics requirement for the associate degree in Arts.

Students who score below the 15th percentile of School and College Ability Test (SCAT) are required to enroll for Mathematics 311. Students who score above the 15th percentile and below the 40th percentile on SCAT take Mathematics 301.

Students who score above the 40th percentile and below the 80th percentile on SCAT and have completed two years of algebra in high school take Mathematics 305.

Students planning to major in engineering who score at the 80th percentile on SCAT and who have had two years of algebra, one year of plane geometry, and one-half year of trigonometry are permitted to enroll for Mathematics 304, Analytic Geometry, and Mathematics 351, Calculus.

Engineering students scoring below the 80th percentile on SCAT take Mathematics 305, College Algebra, and Mathematics 309, Plane Trigonometry.

Course Content

M. 301, College Algebra: Credit: Three semester hours. A review of number systems, fundamental operations with real and imaginary numbers and algebraic quantities, equations, functions and systems of equations, logarithms, introduction to trigonometric functions. Both Mathematics 301 and 305 may not be taken for credit.

M. 304, Analytic Geometry: Credit, three semester hours. A course for mathematics, science, and engineering students. Includes points, lines, and planes in space; rectangular, polar and cylindrical coordinates; the circle; conic sections; solid figures of space; rotation and translation of axes; higher plane curves. Prerequisite: M. 305, M. 302 or M. 309 or the equivalent.

M. 305, College Algebra: Credit, three semester hours. A course recommended for mathematics, business administration, science, and engineering students. A brief review of fundamental operations of algebra, equation and problem solution, systems of equations, special topics on series, logarithms, work-problems analysis, function analysis. Prerequisite: satisfactory score on mathematics placement test, two years of high school algebra or M. 301.

M. 306, Business Mathematics: Designed for business administration students. Fundamentals of arithmetic, cash records, sales tickets and invoices, accounts with customers, percentage, discount, profit and loss, commission, payroll sheets, credit and interest, bank discount, computing interest, insurance annuities, stocks and bonds.

M. 308, Mathematics of Finance: Credit, three semester hours. Recommended for students of business administration in degree programs. Simple and compound interest, annuities sinking funds, amortizations, bonds, and fundmental principles of life insurance, taxes, etc. Prerequisite: M. 305.

M. 309, Plane Trigonometry: Credit, three semester hours. Prerequisites: two years high school algebra or M. 301, high school trigonometry or satisfactory score on mathematics placement test.

M. 311, Introduction to the Number System: Credit, three semester hours. Designed for future teachers. Numeration systems, properties of addition and subtraction, factors, primes, non-metric geometry, and elementary set terminology.

M. 312, Introduction to Modern Mathematics: Credit, three semester hours. Designed for secondary teachers and mathematics majors. Symbolism and terminology of sets, ordered pairs, relations, functions, mathematical structures.

M. 351, 352, Calculus: Credit, three semester hours each. Includes all topics generally treated in first year calculus such as theory of limits, differentiation of simple forms, applications of differentiation, integration and its application. The second semester includes differentiation of transcendental functions, integration of various standard forms, applications. Prerequisite: M. 304.

Exit Requirements

The determination of course grades is the responsibility of the instructor. In addition to homework and several tests, the student takes a final examination.

Wayland Baptist College

Plainview

Entrance Procedures

For admission to Wayland Baptist College, graduates of high schools are required to have two units in mathematics (including one of algebra) and they must take the American College Testing Program Examination (ACT). This examination and the high school record are used to place students.

There are no non-credit courses, but there is a laboratory for one hour credit usually taken by 80 percent of the students starting calculus. Freshmen admitted in the summer meet the same requirements as in the regular session.

General Organization

Baccalaureate degrees in Arts and Science are granted. Three semester hours of mathematics are required for the baccalaureate degree in Arts, and six semester hours for the baccalaureate degree in Science. These are taken at the level where the student is placed by the entrance procedures.

Course Content

Mathematics 101, Laboratory: A laboratory for freshman and sophomore courses as recommended by the instructor. May be repeated in various areas for up to three hours, but may not be offered in fulfillment of core curriculum requirements or toward a major or minor in mathematics.

Mathematics 103, Basic Mathematics: Basic concepts of mathematics, decimals, place value, bases, number line, sets, graphs, negative numbers and elements of geometry and trigonometry. Modern terminology and notations are used.

Mathematics 143, Fundamentals of Mathematics I: Major emphasis is put on algebra using concepts of sets, logic, and structure of number systems.

Mathematics 153, Fundamentals of Mathematics II: The functions of trigonometry are studied as a part of a more general study of functions in other areas of mathematics. Additional topics are chosen to prepare for a study of calculus and for more direct applications to social sciences.

Mathematics 163, Elementary Statistics: Primarily for students of biological and social sciences who need emphasis on interpretation based on simple problems.

Mathematics 223, Calculus and Analytic Geometry I: A study of the basic formulas and equations of analytic geometry followed by an introduction to limits, differentiation, and antiderivation.

Exit Requirements

A course may be repeated and the new grade stands. Individual teachers are responsible for assignment of grades.

West Texas State University

Canyon

Entrance Procedures

Graduates of accredited high schools will be admitted to the freshman class provided they have completed 15 units of high school credit including two units of mathematics.

Transfer students are eligible for admission provided they are eligible for re-admission to the institution in which they were last enrolled.

Graduates of non-accredited high schools may absolve admission requirements by examinations conducted by the Texas Education Agency.

Persons 21 years or older, or veterans 18 years or older, who are not graduates of accredited high schools are considered eligible for admission by conditional individual approval.

All beginning freshmen must take the American College Testing Program Test (ACT) before being admitted to the university. In addition to its use in admission, this test and others are used in placement and program counseling.

Advanced standing (with credit) in college algebra and/or trigonometry may be obtained through an appropriate score on the College Entrance Examination Board (CEEB) advanced placement examination in mathematics. The advanced placement examinations of the CEEB are given once a year, usually in May. Advanced standing (without credit) in college algebra and/or trigonometry may be obtained through an appropriate score on the quantitative portion of the Scholastic Aptitude Test of the CEEB, or through departmental examinations.

Entering freshmen are encouraged to attend the summer session, with admission procedures being the same as those of the regular session.

General Organization

The mathematics department of West Texas State University offers a wide range of courses which are open to freshmen. Most are designed to give a broad understanding of both the structure and applications of mathematics. The pre-medical and pre-engineering students usually include College Algebra and Trigonometry in their freshman programs. For a teaching field in secondary mathematics and a mathematics major, a student would normally follow the same freshman program consisting of College Algebra, Trigonometry, and Calculus I. In addition to the courses just mentioned, the university offers Commercial Algebra and Mathematics of Finance for the business major; Elementary Analysis, Calculus II, Computer Programing, Concepts of Elementary Mathematics, and an Introduction to Matrices for anyone meeting the prerequisites.

Course Content

Mathematics 108, Commercial Algebra: Prerequisite: The mathematics for college admission. Review of fundamental operations, exponents, logarithms, progressions, and applications. Not open to a student who has credit for Mathematics 110.

Mathematics 109, Mathematics of Finance: Prerequisite: Mathematics 108 or 110. Review of percent, simple interest, and discount. A study of compound interest, annuities, amortization, depreciation, break-even, quality control, basic matrices and other related topics.

Mathematics 110, College Algebra: Prerequisite: Two years of high school algebra or Mathematics 108. Algebraic reductions, radicals, quadratic equations, binomial theorem, and applications.

Mathematics 111, Plane Trigonometry: Prerequisite or co-requisite: Mathematics 110. Trigonometric functions, identities, and solutions of triangles.

Mathematics 112, Calculus I: Prerequisite: Mathematics 111. Introduction to differential and integral calculus with some analytic geometry.

Mathematics 150, Introduction to Elementary Analysis: Number systems, sets, relations, and functions.

Mathematics 201, Calculus II: Prerequisite: Mathematics 112. Differentiation and integration.

Mathematics 216, Computer Programing: Prerequisite: Mathematics 108 or 110. Basic machine language, symbolic programing systems, compilers and FORTRAN.

Mathematics 220, Fundamental Concepts of Modern Mathematics: A systematic analysis of arithmetic and intuitive algebra (not open to students who have had or are taking Mathematics 112).

Mathematics 221, Fundamental Concepts of Modern Mathematics: A continuation of Mathematics 220. Prerequisite: Mathematics 220.

Exit Requirements

In each of the courses in mathematics, assignments are made each time the class meets or at least at regular intervals. The course grade is determined by the individual teacher.

The department does attempt to standardize the grading in that each teacher strives for a minimum of five one-hour quizzes during a semester, uses the homework grade average as equivalent to an hour quiz, and administers a final examination whose approximate value is two one-hour quizzes. A passing grade is required.

A student may repeat a course for the purpose of raising his grade. When the repetition is made, the second grade shall stand as the permanent record.

Wharton County Junior College

Wharton

Entrance Procedures

Admission to Wharton County Junior College requires at least two units of high school mathematics (algebra, one unit and elective, one unit) and graduation from an accredited high school. Deficiencies may be absolved by examination in subjects as chosen from the current bulletin of the State Department of Education in May and September of each year. Admission may also be obtained by individuals over 21 with special permission of the registrar. Students making a score of 21-36 in the mathematics section of the American College Test (ACT), and having four years of high school mathematics with B or better grades may begin analytic geometry and calculus as freshmen without taking college algebra and college trigonometry.

Freshmen are admitted in summer school by the same procedures as in regular session.

General Organization

Mathematics is not required for the associate degree in Arts. It is required for technology certificates in data processing (Math 113A and 123F), electronics (Math 113A and 113T), and drafting (Math 113A and 113T). It is also required in terminal auto mechanics (Math 113I and 123I), one year terminal machine shop (Math 113I and 123I), one and two year terminal business (Business Math 113 or Data Processing 113U), and two year agriculture (Business Math 113).

Course Content

Math 113C, Introductory College Algebra: Prerequisite: Minimum of one year high school algebra. Students who offer two years of high school algebra are encouraged to take Math 113A. A thorough review of fundamentals, introduction to quadratic systems, ratio, proportion, variation, progressions, and the binomial theorem. Credit: Three semester hours.

Math 113A, Modern College Algebra: Prerequisite: Minimum of two years of high school algebra or Math 113C. Introduction to set theory, a study of the field axioms and their use in the real number system, fundamental algebraic operations, inequalities, absolute value, relations and their graphs, linear and quadratic functions, systems of equations, determinants and polynomials.

Math 113A, College Algebra: Prerequisite: Minimum of two years of high school algebra or Math 113C. Fundamentals of algebra and the study of quadratics, ratio, proportion, variation, progressions, binomial theorem, complex numbers, theory of equations, determinants, and partial fractions. Credit: Three semester hours.

Math 113T, Trigonometry: Prerequisite: Minimum of one year of high school algebra and one year of plane geometry, or two years of high school algebra or Math 113C. Right triangles, oblique triangles, logarithms, circular measure, analytical trigonometry, trigonometric identities and equations. Credit: Three semester hours.

Math 123F, Mathematics of Finance: Prerequisite: Math 113A or Math 113C. Simple interest and discount, compound interest, annuities, depreciation, perpetuities, capitalization, and other selected topics to prepare a student for a major or minor in business. Credit: Three semester hours.

Math 113I, Industrial Mathematics: Fractions, decimals, percent as applied to typical shop problems. Credit: Three semester hours.

Math 123I, Industrial Mathematics: Prerequisite: Math 113I. A continuation of Mathematics 113I with applications of plane and solid geometry to make mathematics serve as a practical shop tool. Credit: Three semester hours.

Business Math 113, Business Arithmetic: Fundamentals of business arithmetic. Elementary accounting, business machines, business statistics, fractions, aliquot parts, decimals, percentages, profit and loss, payrolls, interest and discount, and notes and drafts. Credit: Three semester hours.

Math 123, Analytic Geometry: Prerequisite: Math 113A and Math 113T or four years of high school mathematics and satisfactory scores on ACT (math section). Fundamental theorems leading to the study of the straight line, polynomial curves, rational fractional functions, transformation of coordinates, the circle, the conic sections, trigonometric curves, exponential and logarithmic curves, parametric equations, polar coordinates, and quadric and plane surfaces. Credit: Three semester hours.

Exit Requirements

The course grade is determined by the instructor, who administers a number of tests during the semester and a final examination.

Grades are as follows:

A	90-100	Excellent
B	80-89	Good
C	70-79	Fair
D	60-79	Poor
F	Below 60	Failure

Wiley College

Marshall

Entrance Procedures

For admission to the freshman class of Wiley College, a graduate of an accredited high school must have completed at least two units of high school mathematics.

The college requires all entering freshmen to take the Scholastic Aptitude Test of the College Entrance Examination Board (SAT-CEEB).

An entering freshman who makes a score of 450-600 on the mathematics section of the CEEB and has completed at least one and one-half years of algebra may enroll in Mathematics 132, Plane Trigonometry, or Mathematics 133, Advanced College Algebra. Those who fail to qualify and wish to proceed to study more advanced mathematics must pass Mathematics 131, College Algebra, and then take Mathematics 132 or 133 or both.

A student who has studied four years of high school mathematics including two years of algebra, one year of geometry, and one-half year each of trigonometry and mathematical analysis and made a score of 600 on the CEEB (mathematics section) may enroll in Mathematics 231, Calculus with Analytic Geometry I.

Freshmen are admitted during the summer session with admission procedures being the same as those of the regular session.

General Organization

Wiley College offers programs leading to the baccalaureate degree in Arts and Science. The college requires all students to include six semester hours of mathematics in their general education program. Most students who do not plan to major or minor in biology, chemistry, mathematics or physics satisfy this minimum requirement in mathematics by taking Mathematics 130a and 130b, Basic Concepts.

Business majors satisfy this requirement by taking Mathematics 130a, Basic Concepts I, and Business 133, Business Mathematics.

The six-hour requirement can be met by obtaining credit for Mathematics 131, College Algebra, and/or Mathematics 133, Advanced College Algebra, and 132, Plane Trigonometry, and a few students with a strong background in high school mathematics elect to satisfy this requirement with Mathematics 231 and 232, Calculus with Analytic Geometry. Students specializing in mathematics, biology and chemistry meet this requirement in the latter way.

Requirements of Mathematics for the Various Programs (1965-66)

Division	Degree	Math Requirement in Hours	Comments
Education and teacher training	B. S. in elementary education	6	Freshman requirements
		18	12 hours beyond freshman requirements, if area of specialization is math.
	Physical education	6	Freshman requirements
Humanities	B. A. in English	6	Freshman requirements
	Religion and philosophy	6	Freshman requirements
	Music	6	Freshman requirements
Natural sciences and mathematics	B. S. in biology	9	For teacher education major: three hours beyond freshman requirement.
		12	For non-teaching major: six hours beyond freshman requirement.
	Chemistry	9	For teacher education major: three hours beyond freshman requirement.
		12	For non-teaching major: six hours beyond freshman requirement.
	Mathematics	30	For teacher education major: 24 hours beyond freshman requirement.
		39	For non-teaching major: 33 hours beyond freshman requirement.
		24	For minor: 18 hours beyond freshman requirement.

Requirements of Mathematics (Cont'd)

Division	Degree	Math Requirements	Comments
Social Sciences and business	B. A.	6	Freshman requirement

Mathematics 130a, 130b, 131, 132, and 133 may not be counted toward a major or minor in mathematics.

Course Content

Mathematics 130a and 130b, Basic Concepts: Numerals and numbers, mathematical systems, mathematical reasoning and creativity, number systems and geometry, relations.

Mathematics 131, College Algebra: Real and complex number systems, sets, equations, simultaneous equations, matrices, inequalities, relations, and algebraic, exponential and logarithmic functions.

Mathematics 132, Plane Trigonometry: The trigonometric functions, identities, equations, inverse functions, graphs and solution of triangles. Prerequisite: One and one-half years of high school algebra and a score of 450-600 on qualifying test or Mathematics 131.

Mathematics 133, Advanced College Algebra: Complex numbers, inequalities, theory of equations, progressions, permutation and probability, determinants and matrices, partial fractions, binomial theorem and mathematical induction. Prerequisite: One and one-half years of high school algebra and a score of 450-600 on qualifying test or Mathematics 131.

Mathematics 231 and 232, Calculus with Analytic Geometry I and II: Introduction to plane analytic geometry, elementary properties of functions, limits and continuity, differentiation of algebraic and transcendental functions and applications, parametric equations, polar coodinates, and an introduction to integral calculus. Prerequisite: Four years of high school mathematics and a score of 600 on qualifying test, or Mathematics 131 and/or 133 and 132 for 231; 231 for 232.

Exit Requirements

The exact determination of course grades is left to the individual instructor. In addition to several tests, each course has a mid-semester and a final examination. A course may be repeated for the purpose of raising a grade. There is no limit to the number of times a course may be repeated, however, the latest grade, whether it is an improvement or not, will be used in evaluating the students' records for graduation.

READER SURVEY I

Bulletin 662

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